

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

APPLICATION FOR PERMIT TO DRILL						1. WELL NAME and NUMBER LC Tribal 7-21D-56				
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT LAKE CANYON				
4. TYPE OF WELL Oil Well <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>						5. UNIT or COMMUNITIZATION AGREEMENT NAME				
6. NAME OF OPERATOR LINN OPERATING, INC.						7. OPERATOR PHONE 435 722-1325				
8. ADDRESS OF OPERATOR Rt. 2 Box 7735, Roosevelt, UT, 84066						9. OPERATOR E-MAIL kwilson@linnenergy.com				
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) 1420H626433			11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>				
13. NAME OF SURFACE OWNER (if box 12 = 'fee') Mike Kendall						14. SURFACE OWNER PHONE (if box 12 = 'fee') 801-726-3488				
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee') 1638 Gordon Ave, Layton, UT 84040						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')				
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN') Ute Indian Tribe			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>			19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>				
20. LOCATION OF WELL		FOOTAGES		QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN		
LOCATION AT SURFACE		2245 FSL 1975 FEL		NWSE	21	5.0 S	6.0 W	U		
Top of Uppermost Producing Zone		2090 FNL 2070 FEL		SWNE	21	5.0 S	6.0 W	U		
At Total Depth		1900 FNL 2089 FEL		SWNE	21	5.0 S	6.0 W	U		
21. COUNTY DUCHESENE			22. DISTANCE TO NEAREST LEASE LINE (Feet) 1900			23. NUMBER OF ACRES IN DRILLING UNIT 640				
			25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completion) 2			26. PROPOSED DEPTH MD: 7168 TVD: 6979				
27. ELEVATION - GROUND LEVEL 7752			28. BOND NUMBER NMB000501			29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 43-12400				
Hole, Casing, and Cement Information										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	13.5	8.625	0 - 1500	32.0	J-55 ST&C	9.5	Type V	270	3.82	11.0
							Class G	350	1.15	15.8
Prod	7.875	5.5	0 - 7168	17.0	N-80 LT&C	9.5	Type V	200	3.82	11.0
							Premium Plus	420	1.7	13.1
ATTACHMENTS										
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES										
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER					<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN					
<input checked="" type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)					<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER					
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)					<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP					
NAME Krista Wilson			TITLE Regulatory Permitting Tech			PHONE 435 722-1325				
SIGNATURE			DATE 10/07/2014			EMAIL kwilson@linnenergy.com				
API NUMBER ASSIGNED 43013531650000					APPROVAL					

Received: October 15, 2014

LINN OPERATING, INC.
LC Tribal 7-21D-56
Section 21, T5S, R6W, U.S.B.&M.
Surface: 2245' FSL & 1975' FEL (NWSE)
BHL: 1900' FNL & 2089' FEL (SWNE)
Duchesne County, Utah

ONSHORE ORDER NO. 1

DRILLING PROGRAM

A,B Estimated Tops of Geological Markers and Formations Expected to Contain Water, Oil and Gas and Other Minerals

FORMATION	DRILL DEPTH * @ SHL (TVD)	DRILL DEPTH* @ BHL (TVD)	Measured Depth
Uinta Fm	Surface	Surface	Surface
Green River	1571'	1594'	1571'
Green River Fouch Marker	2049'	2055'	2050'
Mahogany	2614'	2630'	2627'
Tgr3	3637'	3655'	3732'
*Douglas Creek	4402'	4425'	4568'
Black Shale	5034'	5071'	5230'
*Castle Peak	5314'	5340'	5514'
Uteland Butte	5688'	5709'	5890'
*Wasatch	5914'	5929'	6116'
CR-5	5964'	6979'	7166'
TD	6064'	6979'	7168'
Base of Moderate Saline Water	6432'	6360'	

*PROSPECTIVE PAY

Linn is locating the well at the proposed surface location and directionally drilling to the proposed bottom hole location. By drilling directionally, Linn Operating, Inc. will improve field development efficiency by potentially combining multiple surface hole locations together. This will significantly reduce total surface disturbance plus combine the use of access roads and existing pipelines.

Furthermore, Linn hereby certifies that it is the sole working interest owner with 460 feet of the entire directional well bore and the remainder of the Ute Tribal section.

C Pressure Control Equipment : (Schematic Attached)

The BOP and related equipment shall meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc. A 3M system will be utilized. The attached diagram depicts the use of an annular in conjunction with double rams. However, an annular, double rams or both may be used depending on the drilling rig contracted.

- Chart recorders will be used for all pressure tests.
- Test charts, with individual test results identified, shall be maintained on location while drilling and shall be made available to a representative upon request.
- Mud volumes will be monitored visually.
- Upper and Lower Kelly cocks will be utilized.
- A gas buster will be utilized, if necessary.

<u>Depth Intervals</u>	<u>BOP Equipment</u>
0 – 1500'	No Pressure Control
1500' – 7168'	11" 3000# Ram Type BOP 11" 3000# Annular BOP

D,E Proposed Casing and Cementing Program

<u>Purpose</u>	<u>Depth</u>	<u>Hole Size</u>	<u>Casing Size</u>	<u>Type</u>	<u>Connection</u>	<u>Weight</u>
Conductor will be run as needed with cement set to surface.						
Surface	1500'	13.50"	8.625"	J of K-55	ST&C	32#
Parasite String	1900'	13.50"	1.90"	J-55	IJ	2.76#
Production	7168'	7.875"	5-1/2"	NW-80, N-80 or Lida 80	LT&C	17#

<u>Surface</u>	<u>Type & Amount</u>
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0' – 1500'

Lead with approximately 270 sx Premium Type 5 cement with additives mixed at 11.0 ppg (yield = 3.82 cuft/sx), calculated hole volume with 100% excess.

Tail with approximately 350 sx Premium G cement with additives mixed at 15.8 ppg (yield = 1.15 cuft/sx).

Top out cement, if required: 150sx of Premium cement with additives mixed at 15.8 ppg (yield = 1.15 cuft/sx).

Parasite

We will run an air injection collar +/- 1900' that contains a check valve (delta P = +/- 3500 psi) for our air injection into the annulus of the DP X 8-5/8" surface casing during production hole drilling. Once we drill our production hole section with aerated mud we will case and cement as usual. We will then abandon our parasite string with cement to assure future isolation of that string.

Production	Type & Amount
0' – 3500'	Lead: +/- 200 SX Premium Type V + additives or similar slurry with a minimum weight of 11.0 #/gal and approximate yield of 3.82 cuft/sx
3500' – 7168'	Tail: +/- 420 SX Premium Lite Tail + additives or similar slurry with a minimum weight of 13.1 #/gal and approximate yield of 1.70cuft/sk.

For production casing, actual cement volumes will be determined from the caliper log plus a minimum of 15% excess.

F Drilling Fluids Program

Interval	Weight	Viscosity	Fluid Loss	Remarks
0' – 1500'	8.4 – 9.5	27	NC	Mud or Air (See attached variance)
1500'-7168'	8.4 – 9.5	27	NC	DAP Water

G Evaluation Program

Logging Program: HRI-GR-SP with SDI-DEN-PE surface casing to TD.
 Preserve samples from all show intervals.
 Sampling: 10' dry cut samples: Douglas Creek to TD. Preserve samples
 From all show intervals.
 Surveys: As deemed necessary
 Mud Logger: As deemed necessary
 Drill Stem Tests: As deemed necessary
 Cores: As deemed necessary

H Anticipated Abnormal Pressures or Temperatures

No abnormal temperatures or pressures or other hazards are anticipated.

Shallow gas and/or water flows are possible below surface casing.

Maximum anticipated bottom hole pressure equals approximately 3541 psi* and maximum anticipated surface pressure equals approximately 1964 **psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

*Max Mud Wt x 0.052 x TD = A (bottom hole pressure)

**Maximum surface pressure = A – (0.22xTD)

I Anticipated Starting Dates and Notification of Operations

Drilling Activity:

Anticipated Commencement Date:	Upon approval of the APD.
Drilling Days:	Approximately 10 days.
Completion Days:	Approximately 7 days.

Linn Operating, Inc.
Request for Variance to Air Drill, Onshore Order 2, III, E.

Linn Operating, Inc. requests variances shown below to Onshore Order 2 III . Section E Special Drilling Operations as they apply to our air drilling of surface holes in the Uintah Formation.

Linn Operating, Inc. requests permission to use a diverter bowl in place of a rotating head. The diverter bowl safely forces the air and cutting returns to the surface blooie line and then diverted away from the rig. Gas is very rarely encountered in small amounts in the Uintah formation. The diverter bowl is sufficient to divert such flows safely away from the rig.

Linn Operating, Inc. requests permission to use a blooie line that discharges less than 100' from the wellbore. The location footprint, size and configuration does not allow for a 100' line to the flare or blooie pit for surface hole drilling. The lengths will be 30-60' depending on the location. Gas is very rarely encountered in small amounts in the Uintah formation, and the shorter blooie line lengths are capable of handling such flows.

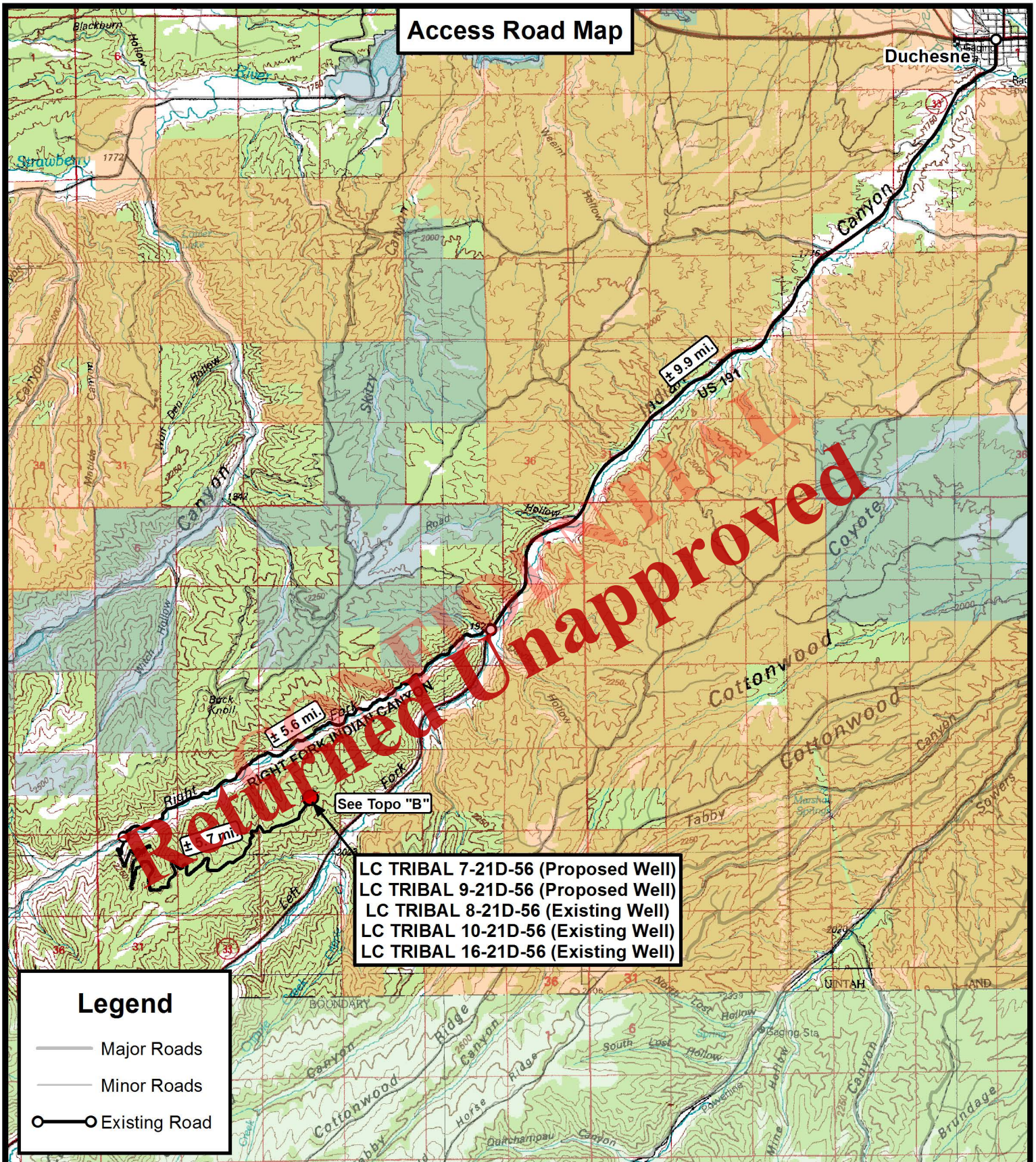
Linn Operating, Inc. requests permission to operate without an automatic igniter or continuous pilot light on the blooie line. Gas is very rarely encountered in small amounts in the Uintah Formation. If encountered, the drilling rig will have the ability to safely ignite the flare as needed.

Linn Operating, Inc. requests permission to use a trailer mounted air compressor located less than 100 feet from the well bore. The location footprint, size and/or configuration of the surface hole drilling amounts in the Uintah Formation. If encountered, the following configuration will allow safe operations. The compressor itself it is located a minimum distance of 30' from the wellbore and is in an opposite direction from the blooie line. The compressor has the following safety features; (1) shut off valve on the trailer that is physically located no more than 20' from the air rig. (2) pressure relief valve on the air compressor discharge cylinder/piping. (3) Spark arrestors on the motors.

Linn Operating, Inc. requests permission to not be required for the staging of mud circulating equipment, water and mud materials sufficient to maintain the capacity of the hole and circulating tank or pits on the air drilling location. Gas is very rarely encountered in small amounts in the Uintah Formation. Berry will have a water truck on location available to fill the hole as needed should gas be encountered.

Received: October 07, 2014

Access Road Map



Legend

- Major Roads
- Minor Roads
- Existing Road

LC TRIBAL 7-21D-56 (Proposed Well)
 LC TRIBAL 9-21D-56 (Proposed Well)
 LC TRIBAL 8-21D-56 (Existing Well)
 LC TRIBAL 10-21D-56 (Existing Well)
 LC TRIBAL 16-21D-56 (Existing Well)



Tri State
Land Surveying, Inc.

180 NORTH VERNAL AVE. VERNAL, UTAH 84078

P: (435) 781-2501
 F: (435) 781-2518



LINN Operating, Inc.

LC TRIBAL 7-21D-56, 9-21D-56 (Proposed Wells)
 LC TRIBAL 8-21D-56, 10-21D-56 &
 16-21D-56 (Existing Wells)
 SEC. 21, T5S, R6W, U.S.B.&M. Duchesne County, UT.

DRAWN BY: J.A.S.
 DATE: 06-17-2014
 SCALE: 1:100,000

TOPOGRAPHIC MAP

SHEET
A

Received: October 07, 2014

Archer

Linn Operating inc.

Duchesne Co., UT (UT27C)

Sec.21-T5S-R6W

LCT 7-21D-56

Wellbore #1

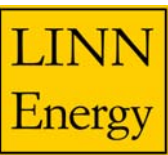
Plan: Design #1

Standard Planning Report

23 September, 2014

CONFIDENTIAL
Returned Unapproved

Archer



Project: Duchesne Co., UT (UT27C)
Site: Sec.21-T5S-R6W
Well: LCT 7-21D-56
Wellbore: Wellbore #1
Design: Design #1
Latitude: 40° 1' 51.776 N
Longitude: 110° 33' 42.383 W
Ground Level: 7752.00
WELL @ 7772.00usft (Original Well Elev)

Archer

PROJECT DETAILS: Duchesne Co., UT (UT27C)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Utah Central 4302
System Datum: Mean Sea Level

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well LCT 7-21D-56, True North
Vertical (TVD) Reference: WELL @ 7772.00usft (Original Well Elev)
Section (VS) Reference: Slot - (0.00N, 0.00E)
Measured Depth Reference: WELL @ 7772.00usft (Original Well Elev)
Calculation Method: Minimum Curvature

WELL DETAILS: LCT 7-21D-56

+N/-S	+E/-W	Northing	Ground Level: 7752.00	Latitude	Longitude	Slot
0.00	0.00	619732.601	Easting 2262714.450	40° 1' 51.776 N	110° 33' 42.383 W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
LC Tribal 7-21D-56 tgt	6979.00	1124.81	-104.16	620856.255	2262598.496	40° 2' 2.893 N	110° 33' 43.722 W	Circle (Radius: 100.00)

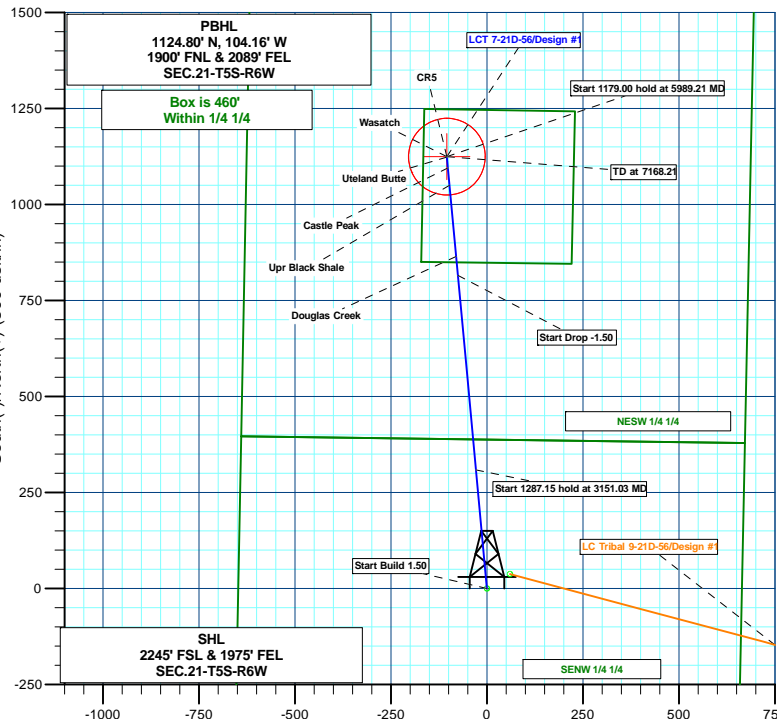
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
3151.03	23.27	354.71	3108.76	309.28	-28.64	1.50	35.71	314.00	Start 1287.15 hold at 3151.03 MD
4438.18	23.27	354.71	4291.24	815.53	-75.52	0.00	0.00	819.02	Start Drop -1.50
5989.21	0.00	0.00	5800.00	1124.80	-104.16	1.50	180.00	1129.62	Start 1179.00 hold at 5989.21 MD
7168.21	0.00	0.00	6979.00	1124.80	-104.16	0.00	0.00	1129.62	TD at 7168.21

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1571.00	1571.00	Green River
2049.31	2050.35	GRF Marker
2615.60	2627.97	Mahogany
3643.30	3732.88	TGR3
4412.12	4568.82	Douglas Creek
5046.29	5230.52	Upr Black Shale
5326.82	5514.81	Castle Peak
5701.15	5890.35	Uteland Butte
5927.16	6116.37	Wasatch
6977.16	7166.37	CR5

Azimuths to True North
Magnetic North: 11.09°
Magnetic Field
Strength: 51852.2nT
Dip Angle: 65.61°
Date: 2014/09/23
Model: IGRF2010



Plan: Design #1 (LCT 7-21D-56/Wellbore #1)

Created By: Ricky Osburn Date: 15-10-September 23 2014

Received: October 07, 2014

Database:	EDMDBBW	Local Co-ordinate Reference:	Well LCT 7-21D-56
Company:	Linn Operating inc.	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Project:	Duchesne Co., UT (UT27C)	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site:	Sec.21-T5S-R6W	North Reference:	True
Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Duchesne Co., UT (UT27C)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Utah Central 4302		

Site	Sec.21-T5S-R6W		
Site Position:		Northing:	622,358.171 usft
From:	Lat/Long	Easting:	2,259,914.043 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	40° 2' 18.013 N
		Longitude:	110° 34' 18.034 W
		Grid Convergence:	0.59 °

Well	LCT 7-21D-56		
Well Position	+N/-S	-2,654.49 usft	Northing: 619,732.601 usft
	+E/-W	2,773.01 usft	Easting: 2,262,714.450 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	40° 1' 51.776 N
		Longitude:	110° 33' 42.383 W
		Ground Level:	7,752.00 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	2014/09/23	11.09
			Dip Angle (°)
			65.61
			Field Strength (nT)
			51,852

Design	Design #1		
Audit Notes:			
Version:	Phase	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°)
			354.71

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,151.03	23.27	354.71	3,108.76	309.28	-28.64	1.50	1.50	0.00	354.71	
4,438.18	23.27	354.71	4,291.24	815.53	-75.52	0.00	0.00	0.00	0.00	
5,989.21	0.00	0.00	5,800.00	1,124.80	-104.16	1.50	-1.50	0.00	180.00	
7,168.21	0.00	0.00	6,979.00	1,124.80	-104.16	0.00	0.00	0.00	0.00	LC Tribal 7-21D-56 tg

Database:	EDMDBBW	Local Co-ordinate Reference:	Well LCT 7-21D-56
Company:	Linn Operating inc.	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Project:	Duchesne Co., UT (UT27C)	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site:	Sec.21-T5S-R6W	North Reference:	True
Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8 5/8" Csg.									
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
Green River									
1,571.00	0.00	0.00	1,571.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	1.50	354.71	1,699.99	1.30	-0.12	1.31	1.50	1.50	0.00
1,800.00	3.00	354.71	1,799.91	5.21	-0.48	5.23	1.50	1.50	0.00
1,900.00	4.50	354.71	1,899.69	11.72	-1.09	11.77	1.50	1.50	0.00
2,000.00	6.00	354.71	1,999.27	20.84	-1.93	20.92	1.50	1.50	0.00
GRF Marker									
2,050.35	6.75	354.71	2,049.31	26.40	-2.45	26.52	1.50	1.50	0.00
2,100.00	7.50	354.71	2,098.57	32.54	-3.01	32.68	1.50	1.50	0.00
2,200.00	9.00	354.71	2,197.54	46.83	-4.34	47.03	1.50	1.50	0.00
2,300.00	10.50	354.71	2,296.09	63.69	-5.90	63.96	1.50	1.50	0.00
2,400.00	12.00	354.71	2,394.16	83.11	-7.70	83.47	1.50	1.50	0.00
2,500.00	13.50	354.71	2,491.70	105.09	-9.73	105.54	1.50	1.50	0.00
2,600.00	15.00	354.71	2,588.62	129.60	-12.00	130.15	1.50	1.50	0.00
Mahogany									
2,627.97	15.42	354.71	2,615.60	136.90	-12.68	137.49	1.50	1.50	0.00
2,700.00	16.50	354.71	2,684.86	156.63	-14.50	157.30	1.50	1.50	0.00
2,800.00	18.00	354.71	2,780.36	186.15	-17.24	186.95	1.50	1.50	0.00
2,900.00	19.50	354.71	2,875.05	218.16	-20.20	219.09	1.50	1.50	0.00
3,000.00	21.00	354.71	2,968.86	252.62	-23.39	253.70	1.50	1.50	0.00
3,100.00	22.50	354.71	3,061.74	289.52	-26.81	290.76	1.50	1.50	0.00
Start 1287.15 hold at 3151.03 MD									
3,151.03	23.27	354.71	3,108.76	309.28	-28.64	310.60	1.50	1.50	0.00
3,200.00	23.27	354.71	3,153.74	328.54	-30.42	329.94	0.00	0.00	0.00
3,300.00	23.27	354.71	3,245.61	367.87	-34.07	369.44	0.00	0.00	0.00
3,400.00	23.27	354.71	3,337.48	407.20	-37.71	408.94	0.00	0.00	0.00
3,500.00	23.27	354.71	3,429.35	446.53	-41.35	448.44	0.00	0.00	0.00
3,600.00	23.27	354.71	3,521.22	485.86	-44.99	487.94	0.00	0.00	0.00
3,700.00	23.27	354.71	3,613.09	525.19	-48.64	527.44	0.00	0.00	0.00
TGR3									
3,732.88	23.27	354.71	3,643.30	538.13	-49.83	540.43	0.00	0.00	0.00
3,800.00	23.27	354.71	3,704.96	564.52	-52.28	566.94	0.00	0.00	0.00
3,900.00	23.27	354.71	3,796.82	603.85	-55.92	606.44	0.00	0.00	0.00
4,000.00	23.27	354.71	3,888.69	643.19	-59.56	645.94	0.00	0.00	0.00

Database:	EDMDBBW	Local Co-ordinate Reference:	Well LCT 7-21D-56
Company:	Linn Operating inc.	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Project:	Duchesne Co., UT (UT27C)	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site:	Sec.21-T5S-R6W	North Reference:	True
Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,100.00	23.27	354.71	3,980.56	682.52	-63.20	685.44	0.00	0.00	0.00
4,200.00	23.27	354.71	4,072.43	721.85	-66.85	724.94	0.00	0.00	0.00
4,300.00	23.27	354.71	4,164.30	761.18	-70.49	764.43	0.00	0.00	0.00
4,400.00	23.27	354.71	4,256.17	800.51	-74.13	803.93	0.00	0.00	0.00
Start Drop -1.50									
4,438.18	23.27	354.71	4,291.24	815.53	-75.52	819.02	0.00	0.00	0.00
4,500.00	22.34	354.71	4,348.23	839.38	-77.73	842.97	1.50	-1.50	0.00
Douglas Creek									
4,568.82	21.31	354.71	4,412.12	864.85	-80.09	868.55	1.50	-1.50	0.00
4,600.00	20.84	354.71	4,441.21	876.02	-81.12	879.76	1.50	-1.50	0.00
4,700.00	19.34	354.71	4,535.13	910.22	-84.29	914.11	1.50	-1.50	0.00
4,800.00	17.84	354.71	4,629.91	941.96	-87.23	945.99	1.50	-1.50	0.00
4,900.00	16.34	354.71	4,725.49	971.21	-89.94	975.37	1.50	-1.50	0.00
5,000.00	14.84	354.71	4,821.81	997.97	-92.42	1,012.24	1.50	-1.50	0.00
5,100.00	13.34	354.71	4,918.80	1,022.21	-94.66	1,035.58	1.50	-1.50	0.00
5,200.00	11.84	354.71	5,016.39	1,043.91	-96.67	1,048.97	1.50	-1.50	0.00
Upr Black Shale									
5,230.52	11.38	354.71	5,046.29	1,050.09	-97.24	1,054.52	1.50	-1.50	0.00
5,300.00	10.34	354.71	5,114.52	1,053.06	-98.44	1,067.61	1.50	-1.50	0.00
5,400.00	8.84	354.71	5,213.12	1,079.64	-99.98	1,084.26	1.50	-1.50	0.00
5,500.00	7.34	354.71	5,312.12	1,093.85	-101.28	1,098.33	1.50	-1.50	0.00
Castle Peak									
5,514.81	7.12	354.71	5,326.82	1,095.51	-101.45	1,100.19	1.50	-1.50	0.00
5,600.00	5.84	354.71	5,411.46	1,105.08	-102.33	1,109.80	1.50	-1.50	0.00
5,700.00	4.34	354.71	5,511.06	1,113.91	-103.15	1,118.67	1.50	-1.50	0.00
5,800.00	2.84	354.71	5,610.87	1,120.14	-103.73	1,124.93	1.50	-1.50	0.00
Uteland Butte									
5,890.35	1.48	354.71	5,701.15	1,123.53	-104.04	1,128.34	1.50	-1.50	0.00
5,900.00	1.34	354.71	5,710.80	1,123.77	-104.07	1,128.57	1.50	-1.50	0.00
Start 1179.00 hold at 5989.21 MD									
5,989.21	0.00	0.00	5,800.00	1,124.80	-104.16	1,129.62	1.50	-1.50	0.00
6,000.00	0.00	0.00	5,810.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
6,100.00	0.00	0.00	5,910.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
Wasatch									
6,116.37	0.00	0.00	5,927.16	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
6,200.00	0.00	0.00	6,010.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
6,300.00	0.00	0.00	6,110.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
6,400.00	0.00	0.00	6,210.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
6,500.00	0.00	0.00	6,310.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
6,600.00	0.00	0.00	6,410.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
6,700.00	0.00	0.00	6,510.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
6,800.00	0.00	0.00	6,610.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
6,900.00	0.00	0.00	6,710.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
7,000.00	0.00	0.00	6,810.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
7,100.00	0.00	0.00	6,910.79	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
CR5									
7,166.37	0.00	0.00	6,977.16	1,124.80	-104.16	1,129.62	0.00	0.00	0.00
TD at 7168.21									
7,168.21	0.00	0.00	6,979.00	1,124.80	-104.16	1,129.62	0.00	0.00	0.00

Database:	EDMDBBW	Local Co-ordinate Reference:	Well LCT 7-21D-56
Company:	Linn Operating inc.	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Project:	Duchesne Co., UT (UT27C)	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site:	Sec.21-T5S-R6W	North Reference:	True
Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
LC Tribal 7-21D-56 tgt	0.00	0.00	6,979.00	1,124.81	-104.16	620,856.255	2,262,598.496	40° 2' 2.893 N	110° 33' 43.722 W
- plan hits target center									
- Circle (radius 100.00)									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(usft)	(usft)		(")	
1,500.00	1,500.00	8 5/8" Csg.	3-5	12-1/4

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(°)
1,571.00	1,571.00	Green River		0.76	23.27
2,050.35	2,049.00	GRF Marker		0.76	23.27
2,627.97	2,614.00	Mahogany		0.76	23.27
3,732.88	3,637.00	TGR3		0.76	23.27
4,568.82	4,402.00	Douglas Creek		0.76	23.27
5,230.52	5,034.00	Upr Black Shale		0.76	23.27
5,514.81	5,314.00	Castle Peak		0.76	23.27
5,890.35	5,686.00	Uteland Butte		0.76	23.27
6,116.37	5,914.00	Wasatch		0.76	23.27
7,166.37	6,964.00	CR5		0.76	23.27

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
1,600.00	1,600.00	0.00	0.00	Start Build 1.50
3,151.03	3,108.76	309.28	-28.64	Start 1287.15 hold at 3151.03 MD
4,438.18	4,291.24	815.53	-75.52	Start Drop -1.50
5,989.21	5,800.00	1,124.80	-104.16	Start 1179.00 hold at 5989.21 MD
7,168.21	6,979.00	1,124.80	-104.16	TD at 7168.21

Archer

Linn Operating inc.

Duchesne Co., UT (UT27C)

Sec.21-T5S-R6W

LCT 7-21D-56

Wellbore #1

Design #1

Anticollision Report

23 September, 2014

Archer

Company:	Linn Operating inc.	Local Co-ordinate Reference:	Well LCT 7-21D-56
Project:	Duchesne Co., UT (UT27C)	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Reference Site:	Sec.21-T5S-R6W	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Reference	Design #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 30.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	2014/09/23	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	7,168.21	Design #1 (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec.21-T5S-R6W						
LC Tribal 9-21D-56 - Wellbore #1 - Design #1	1,595.25	1,595.25	70.94	64.04	10.279	CC
LC Tribal 9-21D-56 - Wellbore #1 - Design #1	1,680.00	1,678.97	71.14	63.88	9.792	ES
LC Tribal 9-21D-56 - Wellbore #1 - Design #1	1,860.00	1,855.95	74.31	66.29	9.271	SF

Offset Design		Sec.21-T5S-R6W - LC Tribal 9-21D-56 - Wellbore #1 - Design #1											Offset Site Error:		0.00 usft
Survey Program:		0-MWD											Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.00	0.00	0.00	0.00	58.07	37.52	60.20	70.94						
30.00	30.00	30.00	30.00	0.01	0.03	58.07	37.52	60.20	70.94	70.90	0.04	1,856.545			
60.00	60.00	60.00	60.00	0.04	0.05	58.07	37.52	60.20	70.94	70.84	0.10	717.302			
90.00	90.00	90.00	90.00	0.08	0.08	58.07	37.52	60.20	70.94	70.78	0.16	444.525			
120.00	120.00	120.00	120.00	0.13	0.13	58.07	37.52	60.20	70.94	70.67	0.27	263.011			
150.00	150.00	150.00	150.00	0.20	0.20	58.07	37.52	60.20	70.94	70.53	0.40	175.341			
180.00	180.00	180.00	180.00	0.27	0.27	58.07	37.52	60.20	70.94	70.40	0.54	131.505			
210.00	210.00	210.00	210.00	0.34	0.34	58.07	37.52	60.20	70.94	70.26	0.67	105.204			
240.00	240.00	240.00	240.00	0.40	0.40	58.07	37.52	60.20	70.94	70.13	0.81	87.670			
270.00	270.00	270.00	270.00	0.47	0.47	58.07	37.52	60.20	70.94	70.00	0.94	75.146			
300.00	300.00	300.00	300.00	0.54	0.54	58.07	37.52	60.20	70.94	69.86	1.08	65.753			
330.00	330.00	330.00	330.00	0.61	0.61	58.07	37.52	60.20	70.94	69.73	1.21	58.447			
360.00	360.00	360.00	360.00	0.67	0.67	58.07	37.52	60.20	70.94	69.59	1.35	52.602			
390.00	390.00	390.00	390.00	0.74	0.74	58.07	37.52	60.20	70.94	69.46	1.48	47.820			
420.00	420.00	420.00	420.00	0.81	0.81	58.07	37.52	60.20	70.94	69.32	1.62	43.835			
450.00	450.00	450.00	450.00	0.88	0.88	58.07	37.52	60.20	70.94	69.19	1.75	40.463			
480.00	480.00	480.00	480.00	0.94	0.94	58.07	37.52	60.20	70.94	69.05	1.89	37.573			
510.00	510.00	510.00	510.00	1.01	1.01	58.07	37.52	60.20	70.94	68.92	2.02	35.068			
540.00	540.00	540.00	540.00	1.08	1.08	58.07	37.52	60.20	70.94	68.78	2.16	32.876			
570.00	570.00	570.00	570.00	1.15	1.15	58.07	37.52	60.20	70.94	68.65	2.29	30.942			
600.00	600.00	600.00	600.00	1.21	1.21	58.07	37.52	60.20	70.94	68.51	2.43	29.223			
630.00	630.00	630.00	630.00	1.28	1.28	58.07	37.52	60.20	70.94	68.38	2.56	27.685			
660.00	660.00	660.00	660.00	1.35	1.35	58.07	37.52	60.20	70.94	68.24	2.70	26.301			
690.00	690.00	690.00	690.00	1.42	1.42	58.07	37.52	60.20	70.94	68.11	2.83	25.049			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Linn Operating inc.	Local Co-ordinate Reference:	Well LCT 7-21D-56
Project:	Duchesne Co., UT (UT27C)	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Reference Site:	Sec.21-T5S-R6W	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
720.00	720.00	720.00	720.00	1.48	1.48	58.07	37.52	60.20	70.94	67.97	2.97	23.910		
750.00	750.00	750.00	750.00	1.55	1.55	58.07	37.52	60.20	70.94	67.84	3.10	22.871		
780.00	780.00	780.00	780.00	1.62	1.62	58.07	37.52	60.20	70.94	67.70	3.24	21.918		
810.00	810.00	810.00	810.00	1.69	1.69	58.07	37.52	60.20	70.94	67.57	3.37	21.041		
840.00	840.00	840.00	840.00	1.75	1.75	58.07	37.52	60.20	70.94	67.43	3.51	20.232		
870.00	870.00	870.00	870.00	1.82	1.82	58.07	37.52	60.20	70.94	67.30	3.64	19.482		
900.00	900.00	900.00	900.00	1.89	1.89	58.07	37.52	60.20	70.94	67.16	3.78	18.781		
930.00	930.00	930.00	930.00	1.96	1.96	58.07	37.52	60.20	70.94	67.03	3.91	18.139		
960.00	960.00	960.00	960.00	2.02	2.02	58.07	37.52	60.20	70.94	66.89	4.05	17.534		
990.00	990.00	990.00	990.00	2.09	2.09	58.07	37.52	60.20	70.94	66.76	4.18	16.968		
1,020.00	1,020.00	1,020.00	1,020.00	2.16	2.16	58.07	37.52	60.20	70.94	66.63	4.32	16.438		
1,050.00	1,050.00	1,050.00	1,050.00	2.23	2.23	58.07	37.52	60.20	70.94	66.49	4.45	15.940		
1,080.00	1,080.00	1,080.00	1,080.00	2.29	2.29	58.07	37.52	60.20	70.94	66.35	4.59	15.471		
1,110.00	1,110.00	1,110.00	1,110.00	2.36	2.36	58.07	37.52	60.20	70.94	66.22	4.72	15.029		
1,140.00	1,140.00	1,140.00	1,140.00	2.43	2.43	58.07	37.52	60.20	70.94	66.08	4.85	14.612		
1,170.00	1,170.00	1,170.00	1,170.00	2.49	2.49	58.07	37.52	60.20	70.94	65.95	4.99	14.217		
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	58.07	37.52	60.20	70.94	65.81	5.12	13.843		
1,230.00	1,230.00	1,230.00	1,230.00	2.63	2.63	58.07	37.52	60.20	70.94	65.68	5.26	13.488		
1,260.00	1,260.00	1,260.00	1,260.00	2.70	2.70	58.07	37.52	60.20	70.94	65.54	5.39	13.151		
1,290.00	1,290.00	1,290.00	1,290.00	2.76	2.76	58.07	37.52	60.20	70.94	65.41	5.53	12.830		
1,320.00	1,320.00	1,320.00	1,320.00	2.83	2.83	58.07	37.52	60.20	70.94	65.27	5.66	12.524		
1,350.00	1,350.00	1,350.00	1,350.00	2.90	2.90	58.07	37.52	60.20	70.94	65.14	5.80	12.233		
1,380.00	1,380.00	1,380.00	1,380.00	2.97	2.97	58.07	37.52	60.20	70.94	65.01	5.93	11.955		
1,410.00	1,410.00	1,410.00	1,410.00	3.03	3.03	58.07	37.52	60.20	70.94	64.87	6.07	11.689		
1,440.00	1,440.00	1,440.00	1,440.00	3.09	3.10	58.07	37.52	60.20	70.94	64.74	6.20	11.435		
1,470.00	1,470.00	1,470.00	1,470.00	3.17	3.17	58.07	37.52	60.20	70.94	64.60	6.34	11.192		
1,500.00	1,500.00	1,500.00	1,500.00	3.24	3.24	58.07	37.52	60.20	70.94	64.47	6.47	10.959		
1,530.00	1,530.00	1,530.00	1,530.00	3.30	3.30	58.07	37.52	60.20	70.94	64.33	6.61	10.735		
1,560.00	1,560.00	1,560.00	1,560.00	3.37	3.37	58.07	37.52	60.20	70.94	64.20	6.74	10.520		
1,590.00	1,590.00	1,590.00	1,590.00	3.44	3.44	58.07	37.52	60.20	70.94	64.06	6.88	10.314		
1,595.25	1,595.25	1,595.25	1,595.25	3.45	3.45	58.07	37.52	60.20	70.94	64.04	6.90	10.279 CC		
1,620.00	1,620.00	1,619.75	1,619.75	3.51	3.50	58.13	37.51	60.25	70.95	63.94	7.01	10.124		
1,650.00	1,650.00	1,649.37	1,649.37	3.57	3.56	58.49	37.44	60.51	71.02	63.88	7.14	9.950		
1,680.00	1,679.99	1,678.97	1,678.97	3.64	3.63	59.15	37.31	60.99	71.14	63.88	7.27	9.792 ES		
1,710.00	1,709.98	1,708.56	1,708.55	3.71	3.69	60.11	37.12	61.69	71.34	63.95	7.39	9.651		
1,740.00	1,739.97	1,738.12	1,738.09	3.78	3.74	61.36	36.88	62.62	71.64	64.12	7.52	9.531		
1,770.00	1,769.94	1,767.65	1,767.59	3.84	3.80	62.90	36.57	63.76	72.05	64.41	7.64	9.431		
1,800.00	1,799.91	1,797.13	1,797.05	3.91	3.86	64.71	36.21	65.12	72.61	64.85	7.76	9.352		
1,830.00	1,829.86	1,826.57	1,826.44	3.98	3.92	66.77	35.79	66.69	73.35	65.46	7.89	9.297		
1,860.00	1,859.80	1,855.95	1,855.76	4.05	3.98	69.07	35.31	68.49	74.31	66.29	8.02	9.271 SF		
1,890.00	1,889.72	1,885.28	1,885.01	4.12	4.04	71.57	34.78	70.49	75.52	67.38	8.14	9.277		
1,920.00	1,919.63	1,914.53	1,914.17	4.18	4.10	74.25	34.19	72.71	77.02	68.75	8.27	9.316		
1,950.00	1,949.51	1,943.70	1,943.24	4.25	4.16	77.07	33.54	75.14	78.86	70.46	8.40	9.392		
1,980.00	1,979.37	1,972.80	1,972.21	4.32	4.22	79.99	32.84	77.77	81.06	72.53	8.52	9.509		
2,010.00	2,009.21	2,001.80	2,001.06	4.39	4.28	82.97	32.09	80.61	83.66	75.00	8.65	9.669		
2,040.00	2,039.03	2,030.71	2,029.80	4.46	4.35	85.96	31.28	83.64	86.68	77.90	8.78	9.869		
2,070.00	2,068.81	2,059.51	2,058.41	4.53	4.42	88.94	30.41	86.88	90.16	81.25	8.91	10.115		
2,100.00	2,098.57	2,088.21	2,086.88	4.60	4.48	91.87	29.50	90.31	94.10	85.06	9.04	10.405		
2,130.00	2,128.30	2,116.79	2,115.22	4.68	4.55	94.71	28.53	93.93	98.52	89.34	9.18	10.735		
2,160.00	2,158.00	2,145.26	2,143.41	4.76	4.62	97.45	27.52	97.74	103.42	94.11	9.31	11.108		
2,190.00	2,187.66	2,173.59	2,171.44	4.83	4.69	100.08	26.45	101.74	108.81	99.37	9.44	11.524		
2,220.00	2,217.28	2,201.79	2,199.30	4.91	4.76	102.57	25.34	105.92	114.68	105.10	9.58	11.975		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Linn Operating inc.	Local Co-ordinate Reference:	Well LCT 7-21D-56
Project:	Duchesne Co., UT (UT27C)	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Reference Site:	Sec.21-T5S-R6W	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,250.00	2,246.87	2,229.85	2,227.00	4.99	4.84	104.93	24.18	110.27	121.03	111.31	9.71	12.461		
2,280.00	2,276.41	2,257.77	2,254.52	5.07	4.91	107.15	22.97	114.79	127.85	118.00	9.85	12.984		
2,310.00	2,305.92	2,285.54	2,281.86	5.16	4.99	109.23	21.72	119.49	135.13	125.15	9.98	13.538		
2,340.00	2,335.38	2,313.15	2,309.01	5.25	5.07	111.18	20.43	124.35	142.87	132.75	10.12	14.117		
2,370.00	2,364.80	2,340.60	2,335.97	5.34	5.15	113.00	19.09	129.36	151.05	140.80	10.26	14.725		
2,400.00	2,394.16	2,367.89	2,362.73	5.43	5.24	114.69	17.71	134.53	159.67	149.28	10.39	15.362		
2,430.00	2,423.48	2,395.00	2,389.28	5.52	5.32	116.28	16.30	139.86	168.72	158.18	10.54	16.011		
2,460.00	2,452.75	2,421.94	2,415.61	5.62	5.41	117.76	14.84	145.33	178.18	167.50	10.68	16.668		
2,490.00	2,481.97	2,448.70	2,441.74	5.72	5.50	119.13	13.34	150.94	188.05	177.23	10.82	17.384		
2,520.00	2,511.13	2,475.28	2,467.64	5.82	5.59	120.42	11.81	156.68	198.32	187.36	10.95	18.091		
2,550.00	2,540.24	2,500.00	2,491.70	5.93	5.67	121.66	10.35	162.18	208.98	197.88	11.10	18.820		
2,580.00	2,569.28	2,527.87	2,518.77	6.04	5.78	122.75	8.65	168.57	220.02	208.76	11.25	19.549		
2,610.00	2,598.27	2,553.87	2,543.98	6.15	5.88	123.81	7.01	174.69	231.44	220.05	11.40	20.298		
2,640.00	2,627.20	2,579.67	2,568.96	6.27	5.97	124.80	5.35	180.93	243.21	231.66	11.55	21.052		
2,670.00	2,656.06	2,605.26	2,593.70	6.39	6.07	125.73	3.66	187.22	255.35	243.65	11.70	21.821		
2,700.00	2,684.86	2,630.65	2,618.19	6.51	6.18	126.61	1.93	193.71	267.85	256.00	11.85	22.598		
2,730.00	2,713.59	2,655.83	2,642.43	6.64	6.29	127.43	0.19	200.31	280.69	268.68	12.01	23.370		
2,760.00	2,742.25	2,680.79	2,666.43	6.78	6.39	128.21	-1.59	206.97	293.88	281.71	12.17	24.154		
2,790.00	2,770.84	2,705.54	2,690.17	6.91	6.50	128.95	-3.39	213.72	307.40	295.08	12.32	24.947		
2,820.00	2,799.36	2,730.07	2,713.65	7.05	6.62	129.65	-5.21	220.56	321.25	308.76	12.48	25.732		
2,850.00	2,827.81	2,754.37	2,736.88	7.19	6.73	130.32	-7.05	227.48	335.42	322.77	12.65	26.520		
2,880.00	2,856.18	2,778.45	2,759.85	7.34	6.85	130.95	-8.92	234.47	349.91	337.10	12.81	27.316		
2,910.00	2,884.47	2,800.00	2,780.36	7.49	6.95	131.61	-10.62	240.85	364.73	351.76	12.97	28.124		
2,940.00	2,912.68	2,825.93	2,804.99	7.65	7.09	132.13	-12.70	248.67	379.83	366.69	13.15	28.894		
2,970.00	2,940.82	2,849.33	2,827.41	7.81	7.21	132.68	-14.62	255.87	395.25	381.94	13.32	29.682		
3,000.00	2,968.86	2,872.49	2,849.08	7.97	7.33	133.21	-16.55	263.12	410.97	397.49	13.48	30.478		
3,030.00	2,996.81	2,895.41	2,870.72	8.14	7.45	133.72	-18.50	270.43	426.98	413.32	13.66	31.256		
3,060.00	3,024.71	2,918.10	2,892.10	8.32	7.58	134.21	-20.46	277.79	443.29	429.45	13.84	32.032		
3,090.00	3,052.50	2,940.35	2,913.20	8.49	7.71	134.68	-22.43	285.18	459.87	445.86	14.02	32.811		
3,120.00	3,080.20	2,962.76	2,934.40	8.67	7.84	135.13	-24.41	292.62	476.74	462.55	14.20	33.582		
3,150.00	3,107.81	2,984.73	2,954.60	8.85	7.97	135.57	-26.40	300.09	493.89	479.51	14.38	34.351		
3,180.00	3,135.37	3,006.51	2,974.94	9.04	8.10	135.98	-28.41	307.61	511.24	496.67	14.57	35.082		
3,210.00	3,162.93	3,028.15	2,995.10	9.24	8.24	136.37	-30.43	315.19	528.74	513.97	14.77	35.793		
3,240.00	3,190.49	3,049.64	3,015.09	9.43	8.38	136.72	-32.46	322.83	546.37	531.39	14.97	36.490		
3,270.00	3,218.05	3,071.00	3,034.91	9.63	8.52	137.06	-34.52	330.53	564.12	548.95	15.17	37.178		
3,300.00	3,245.61	3,092.22	3,054.55	9.82	8.65	137.37	-36.58	338.29	582.01	566.63	15.37	37.857		
3,330.00	3,273.17	3,113.29	3,074.02	10.02	8.80	137.66	-38.66	346.09	600.02	584.44	15.58	38.512		
3,360.00	3,300.73	3,134.23	3,093.31	10.22	8.95	137.92	-40.76	353.95	618.14	602.36	15.79	39.154		
3,390.00	3,328.29	3,155.03	3,112.43	10.42	9.09	138.18	-42.86	361.86	636.39	620.40	15.99	39.787		
3,420.00	3,355.86	3,175.69	3,131.38	10.62	9.24	138.41	-44.98	369.81	654.75	638.55	16.20	40.407		
3,450.00	3,383.42	3,200.00	3,153.62	10.82	9.41	138.56	-47.51	379.30	673.24	656.82	16.42	40.992		
3,480.00	3,410.98	3,216.59	3,168.76	11.03	9.53	138.84	-49.26	385.85	691.82	675.20	16.63	41.610		
3,510.00	3,438.54	3,236.83	3,187.19	11.23	9.69	139.04	-51.41	393.93	710.52	693.68	16.84	42.192		
3,540.00	3,466.10	3,256.93	3,205.46	11.44	9.84	139.23	-53.57	402.05	729.33	712.27	17.06	42.761		
3,570.00	3,493.66	3,276.90	3,223.55	11.65	10.00	139.40	-55.75	410.20	748.24	730.97	17.27	43.324		
3,600.00	3,521.22	3,300.00	3,244.43	11.85	10.17	139.50	-58.29	419.75	767.27	749.77	17.50	43.855		
3,630.00	3,548.78	3,316.42	3,259.24	12.06	10.31	139.72	-60.12	426.61	786.38	768.68	17.71	44.414		
3,660.00	3,576.34	3,335.97	3,276.83	12.27	10.47	139.87	-62.32	434.86	805.61	787.68	17.93	44.940		
3,690.00	3,603.90	3,355.39	3,294.25	12.48	10.63	140.01	-64.52	443.14	824.93	806.79	18.15	45.460		
3,720.00	3,631.46	3,374.67	3,311.51	12.69	10.79	140.14	-66.74	451.45	844.36	825.99	18.37	45.970		
3,750.00	3,659.02	3,394.69	3,329.39	12.90	10.96	140.25	-69.06	460.16	863.88	845.28	18.59	46.461		
3,780.00	3,686.58	3,417.44	3,349.68	13.11	11.15	140.30	-71.70	470.08	883.42	864.59	18.83	46.915		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Linn Operating inc.	Local Co-ordinate Reference:	Well LCT 7-21D-56
Project:	Duchesne Co., UT (UT27C)	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Reference Site:	Sec.21-T5S-R6W	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
3,810.00	3,714.14	3,440.18	3,369.98	13.33	11.35	140.35	-74.35	480.01	902.97	883.91	19.07	47.359		
3,840.00	3,741.70	3,462.93	3,390.27	13.54	11.55	140.40	-76.99	489.93	922.52	903.22	19.30	47.790		
3,870.00	3,769.26	3,485.67	3,410.56	13.76	11.74	140.45	-79.64	499.85	942.07	922.53	19.54	48.212		
3,900.00	3,796.82	3,508.41	3,430.86	13.97	11.94	140.50	-82.28	509.77	961.62	941.84	19.78	48.620		
3,930.00	3,824.38	3,531.16	3,451.15	14.18	12.14	140.54	-84.92	519.69	981.17	961.15	20.02	49.010		
3,960.00	3,851.95	3,553.90	3,471.44	14.40	12.35	140.58	-87.57	529.61	1,000.72	980.46	20.26	49.391		
3,990.00	3,879.51	3,576.64	3,491.74	14.62	12.55	140.62	-90.21	539.54	1,020.28	999.77	20.50	49.768		
4,020.00	3,907.07	3,599.39	3,512.03	14.83	12.75	140.66	-92.86	549.46	1,039.83	1,019.08	20.74	50.125		
4,050.00	3,934.63	3,622.13	3,532.33	15.05	12.95	140.70	-95.50	559.38	1,059.38	1,038.39	20.99	50.471		
4,080.00	3,962.19	3,644.87	3,552.62	15.27	13.16	140.73	-98.14	569.30	1,078.93	1,057.70	21.22	50.809		
4,110.00	3,989.75	3,667.62	3,572.91	15.48	13.36	140.77	-100.79	579.22	1,098.49	1,077.61	21.46	51.138		
4,140.00	4,017.31	3,690.36	3,593.21	15.70	13.56	140.80	-103.43	589.15	1,118.04	1,097.31	21.73	51.459		
4,170.00	4,044.87	3,713.10	3,613.50	15.92	13.77	140.83	-106.08	599.07	1,137.49	1,115.92	21.97	51.769		
4,200.00	4,072.43	3,735.85	3,633.79	16.14	13.98	140.86	-108.72	608.99	1,156.15	1,134.93	22.22	52.070		
4,230.00	4,099.99	3,758.59	3,654.09	16.36	14.18	140.89	-111.36	618.91	1,174.70	1,154.23	22.47	52.362		
4,260.00	4,127.55	3,781.33	3,674.38	16.58	14.39	140.92	-114.01	628.83	1,193.26	1,173.54	22.72	52.648		
4,290.00	4,155.11	3,804.08	3,694.68	16.80	14.60	140.95	-116.65	638.75	1,211.81	1,192.84	22.97	52.926		
4,320.00	4,182.67	3,826.82	3,714.97	17.02	14.81	140.98	-119.30	648.68	1,230.37	1,212.15	23.22	53.194		
4,350.00	4,210.23	3,849.56	3,735.26	17.24	15.02	141.01	-121.94	658.60	1,248.93	1,231.45	23.48	53.455		
4,380.00	4,237.79	3,872.31	3,755.56	17.46	15.23	141.04	-124.58	668.52	1,267.48	1,250.75	23.73	53.711		
4,410.00	4,265.35	3,895.05	3,775.85	17.68	15.44	141.07	-127.23	678.44	1,286.04	1,270.06	23.98	53.961		
4,440.00	4,292.91	3,917.80	3,796.14	17.90	15.65	141.08	-129.87	688.36	1,304.59	1,289.36	24.24	54.200		
4,470.00	4,320.53	3,940.60	3,816.50	18.09	15.86	141.10	-132.52	698.31	1,323.08	1,308.57	24.50	54.405		
4,500.00	4,348.23	3,963.53	3,836.95	18.29	16.07	141.11	-135.19	708.31	1,341.53	1,327.66	24.77	54.596		
4,530.00	4,376.02	3,986.57	3,857.51	18.45	16.28	141.12	-137.87	718.36	1,360.04	1,346.62	25.02	54.812		
4,560.00	4,403.90	4,009.72	3,878.16	18.62	16.50	141.11	-140.56	728.46	1,378.52	1,365.44	25.28	55.011		
4,590.00	4,431.81	4,032.93	3,898.92	18.79	16.72	141.11	-143.26	738.61	1,407.67	1,384.13	25.54	55.196		
4,620.00	4,459.92	4,056.35	3,919.77	18.95	16.93	141.09	-145.98	748.81	1,426.47	1,402.67	25.80	55.373		
4,650.00	4,488.06	4,079.83	3,940.72	19.11	17.15	141.07	-148.71	759.05	1,445.14	1,421.08	26.06	55.540		
4,680.00	4,516.27	4,103.41	3,961.77	19.27	17.37	141.04	-151.45	769.34	1,463.67	1,439.35	26.32	55.695		
4,710.00	4,544.57	4,127.10	3,982.91	19.43	17.60	141.01	-154.20	779.67	1,482.05	1,457.48	26.58	55.839		
4,740.00	4,572.94	4,150.90	4,004.14	19.58	17.82	140.97	-156.97	790.06	1,500.30	1,475.46	26.84	55.979		
4,770.00	4,601.39	4,174.80	4,025.46	19.74	18.05	140.93	-159.75	800.48	1,518.40	1,493.30	27.10	56.108		
4,800.00	4,629.91	4,198.80	4,046.88	19.89	18.27	140.88	-162.54	810.95	1,536.36	1,511.00	27.36	56.226		
4,830.00	4,658.50	4,222.89	4,068.38	20.04	18.50	140.83	-165.34	821.46	1,554.18	1,528.56	27.62	56.342		
4,860.00	4,687.16	4,247.09	4,089.97	20.18	18.73	140.77	-168.15	832.02	1,571.85	1,545.97	27.88	56.449		
4,890.00	4,715.90	4,271.38	4,111.64	20.33	18.96	140.71	-170.98	842.61	1,589.37	1,563.23	28.14	56.546		
4,920.00	4,744.70	4,295.77	4,133.40	20.47	19.19	140.64	-173.81	853.25	1,606.75	1,580.35	28.40	56.642		
4,950.00	4,773.56	4,320.25	4,155.25	20.60	19.42	140.57	-176.66	863.93	1,624.99	1,597.33	28.66	56.731		
4,980.00	4,802.49	4,344.82	4,177.17	20.74	19.65	140.49	-179.51	874.65	1,643.07	1,614.15	28.92	56.811		
5,010.00	4,831.48	4,369.48	4,199.18	20.87	19.89	140.41	-182.38	885.41	1,660.01	1,630.83	29.18	56.887		
5,040.00	4,860.53	4,394.23	4,221.26	21.00	20.12	140.33	-185.26	896.21	1,676.80	1,647.37	29.44	56.964		
5,070.00	4,889.64	4,419.07	4,243.43	21.13	20.36	140.24	-188.15	907.05	1,693.44	1,663.75	29.69	57.031		
5,100.00	4,918.80	4,444.00	4,265.67	21.26	20.59	140.15	-191.04	917.92	1,709.94	1,679.98	29.95	57.091		
5,130.00	4,948.02	4,477.68	4,295.75	21.37	20.89	139.98	-194.94	932.55	1,726.24	1,696.00	30.24	57.087		
5,160.00	4,977.29	4,518.73	4,332.59	21.49	21.23	139.74	-199.61	950.06	1,742.19	1,711.65	30.55	57.030		
5,190.00	5,006.61	4,560.44	4,370.21	21.61	21.54	139.51	-204.25	967.46	1,757.76	1,726.91	30.85	56.972		
5,220.00	5,035.98	4,602.81	4,408.63	21.72	21.85	139.28	-208.84	984.72	1,772.93	1,741.78	31.16	56.906		
5,250.00	5,065.39	4,645.81	4,447.82	21.83	22.16	139.06	-213.40	1,001.82	1,787.71	1,756.25	31.45	56.838		
5,280.00	5,094.86	4,689.46	4,487.81	21.94	22.48	138.84	-217.91	1,018.74	1,802.07	1,770.32	31.75	56.754		
5,310.00	5,124.36	4,733.75	4,528.57	22.04	22.78	138.62	-222.36	1,035.45	1,816.02	1,783.97	32.05	56.667		
5,340.00	5,153.91	4,778.66	4,570.12	22.14	23.08	138.41	-226.76	1,051.93	1,829.54	1,797.20	32.34	56.575		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Linn Operating inc.	Local Co-ordinate Reference:	Well LCT 7-21D-56
Project:	Duchesne Co., UT (UT27C)	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Reference Site:	Sec.21-T5S-R6W	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,370.00	5,183.50	4,824.20	4,612.45	22.24	23.38	138.20	-231.08	1,068.16	1,842.64	1,810.01	32.63	56.474		
5,400.00	5,213.12	4,870.35	4,655.54	22.33	23.68	138.00	-235.33	1,084.11	1,855.29	1,822.38	32.92	56.364		
5,430.00	5,242.78	4,917.09	4,699.40	22.42	23.97	137.80	-239.50	1,099.75	1,867.50	1,834.30	33.20	56.256		
5,460.00	5,272.48	4,964.43	4,744.01	22.51	24.26	137.61	-243.58	1,115.06	1,879.26	1,845.78	33.47	56.142		
5,490.00	5,302.21	5,012.35	4,789.36	22.60	24.54	137.42	-247.56	1,130.01	1,890.55	1,856.80	33.75	56.018		
5,520.00	5,331.97	5,060.83	4,835.44	22.68	24.81	137.24	-251.44	1,144.57	1,901.38	1,867.36	34.01	55.898		
5,550.00	5,361.76	5,109.86	4,882.23	22.75	25.08	137.07	-255.21	1,158.73	1,911.73	1,877.45	34.28	55.777		
5,580.00	5,391.57	5,159.42	4,929.71	22.83	25.34	136.90	-258.87	1,172.44	1,921.60	1,887.07	34.53	55.643		
5,610.00	5,421.41	5,209.50	4,977.88	22.90	25.59	136.73	-262.40	1,185.70	1,930.99	1,896.20	34.79	55.508		
5,640.00	5,451.27	5,260.07	5,026.69	22.97	25.83	136.57	-265.80	1,198.46	1,939.88	1,904.85	35.03	55.379		
5,670.00	5,481.16	5,311.12	5,076.14	23.04	26.07	136.42	-269.07	1,210.71	1,948.27	1,913.83	35.27	55.241		
5,700.00	5,511.06	5,362.62	5,126.20	23.10	26.29	136.28	-272.19	1,222.42	1,956.15	1,921.35	35.50	55.103		
5,730.00	5,540.99	5,414.56	5,176.83	23.16	26.51	136.14	-275.16	1,233.57	1,963.44	1,927.30	35.72	54.966		
5,760.00	5,570.93	5,466.90	5,228.02	23.21	26.71	136.01	-277.97	1,244.13	1,970.36	1,934.44	35.94	54.829		
5,790.00	5,600.88	5,519.63	5,279.74	23.27	26.91	135.88	-280.63	1,254.43	1,977.71	1,940.56	36.15	54.685		
5,820.00	5,630.84	5,572.72	5,331.94	23.32	27.10	135.76	-283.11	1,263.40	1,982.52	1,946.17	36.35	54.545		
5,850.00	5,660.82	5,626.14	5,384.60	23.36	27.27	135.65	-285.42	1,272.08	1,987.79	1,951.25	36.54	54.404		
5,880.00	5,690.80	5,679.86	5,437.67	23.41	27.44	135.55	-287.55	1,280.08	1,992.53	1,955.81	36.72	54.260		
5,910.00	5,720.79	5,733.85	5,491.14	23.45	27.59	135.45	-289.50	1,287.40	1,996.73	1,959.83	36.90	54.116		
5,940.00	5,750.79	5,788.10	5,544.95	23.49	27.74	135.35	-291.27	1,294.01	2,000.38	1,963.32	37.06	53.972		
5,970.00	5,780.79	5,842.56	5,599.06	23.52	27.87	135.25	-292.84	1,299.91	2,003.49	1,966.27	37.22	53.828		
6,000.00	5,810.79	5,897.20	5,653.44	23.56	28.00	135.20	-294.21	1,305.07	2,006.07	1,968.70	37.37	53.679		
6,030.00	5,840.79	5,951.99	5,708.04	23.59	28.10	135.13	-295.39	1,309.50	2,008.24	1,970.72	37.51	53.536		
6,060.00	5,870.79	6,006.90	5,762.82	23.62	28.21	135.08	-296.37	1,313.17	2,010.03	1,972.38	37.65	53.386		
6,090.00	5,900.79	6,061.91	5,817.71	23.66	28.29	135.03	-297.15	1,316.09	2,011.46	1,973.68	37.78	53.238		
6,120.00	5,930.79	6,116.99	5,872.78	23.69	28.37	135.00	-297.72	1,318.25	2,012.51	1,974.60	37.91	53.084		
6,150.00	5,960.79	6,172.11	5,927.90	23.73	28.44	134.98	-298.09	1,319.64	2,013.19	1,975.15	38.03	52.930		
6,180.00	5,990.79	6,227.29	5,983.06	23.76	28.50	134.97	-298.26	1,320.26	2,013.49	1,975.34	38.15	52.772		
6,210.00	6,020.79	6,283.02	6,020.79	23.79	28.54	134.97	-298.27	1,320.29	2,013.51	1,975.26	38.25	52.645		
6,240.00	6,050.79	6,295.02	6,050.79	23.83	28.56	134.97	-298.27	1,320.29	2,013.51	1,975.18	38.33	52.531		
6,270.00	6,080.79	6,325.02	6,080.79	23.86	28.59	134.97	-298.27	1,320.29	2,013.51	1,975.09	38.41	52.415		
6,300.00	6,110.79	6,355.02	6,110.79	23.90	28.62	134.97	-298.27	1,320.29	2,013.51	1,975.01	38.50	52.300		
6,330.00	6,140.79	6,385.02	6,140.79	23.93	28.65	134.97	-298.27	1,320.29	2,013.51	1,974.92	38.58	52.184		
6,360.00	6,170.79	6,415.02	6,170.79	23.97	28.68	134.97	-298.27	1,320.29	2,013.51	1,974.84	38.67	52.068		
6,390.00	6,200.79	6,445.02	6,200.79	24.00	28.71	134.97	-298.27	1,320.29	2,013.51	1,974.75	38.76	51.953		
6,420.00	6,230.79	6,475.02	6,230.79	24.04	28.74	134.97	-298.27	1,320.29	2,013.51	1,974.67	38.84	51.837		
6,450.00	6,260.79	6,505.02	6,260.79	24.07	28.77	134.97	-298.27	1,320.29	2,013.51	1,974.58	38.93	51.722		
6,480.00	6,290.79	6,535.02	6,290.79	24.11	28.80	134.97	-298.27	1,320.29	2,013.51	1,974.49	39.02	51.607		
6,510.00	6,320.79	6,565.02	6,320.79	24.15	28.83	134.97	-298.27	1,320.29	2,013.51	1,974.41	39.10	51.492		
6,540.00	6,350.79	6,595.02	6,350.79	24.18	28.86	134.97	-298.27	1,320.29	2,013.51	1,974.32	39.19	51.378		
6,570.00	6,380.79	6,625.02	6,380.79	24.22	28.89	134.97	-298.27	1,320.29	2,013.51	1,974.23	39.28	51.263		
6,600.00	6,410.79	6,655.02	6,410.79	24.25	28.92	134.97	-298.27	1,320.29	2,013.51	1,974.14	39.37	51.149		
6,630.00	6,440.79	6,685.02	6,440.79	24.29	28.95	134.97	-298.27	1,320.29	2,013.51	1,974.05	39.45	51.035		
6,660.00	6,470.79	6,715.02	6,470.79	24.33	28.98	134.97	-298.27	1,320.29	2,013.51	1,973.97	39.54	50.921		
6,690.00	6,500.79	6,745.02	6,500.79	24.36	29.01	134.97	-298.27	1,320.29	2,013.51	1,973.88	39.63	50.807		
6,720.00	6,530.79	6,775.02	6,530.79	24.40	29.05	134.97	-298.27	1,320.29	2,013.51	1,973.79	39.72	50.693		
6,750.00	6,560.79	6,805.02	6,560.79	24.44	29.08	134.97	-298.27	1,320.29	2,013.51	1,973.70	39.81	50.580		
6,780.00	6,590.79	6,835.02	6,590.79	24.48	29.11	134.97	-298.27	1,320.29	2,013.51	1,973.61	39.90	50.466		
6,810.00	6,620.79	6,865.02	6,620.79	24.51	29.14	134.97	-298.27	1,320.29	2,013.51	1,973.52	39.99	50.353		
6,840.00	6,650.79	6,895.02	6,650.79	24.55	29.17	134.97	-298.27	1,320.29	2,013.51	1,973.43	40.08	50.240		
6,870.00	6,680.79	6,925.02	6,680.79	24.59	29.20	134.97	-298.27	1,320.29	2,013.51	1,973.34	40.17	50.127		
6,900.00	6,710.79	6,955.02	6,710.79	24.62	29.24	134.97	-298.27	1,320.29	2,013.51	1,973.25	40.26	50.015		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Linn Operating inc.	Local Co-ordinate Reference:	Well LCT 7-21D-56
Project:	Duchesne Co., UT (UT27C)	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Reference Site:	Sec.21-T5S-R6W	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

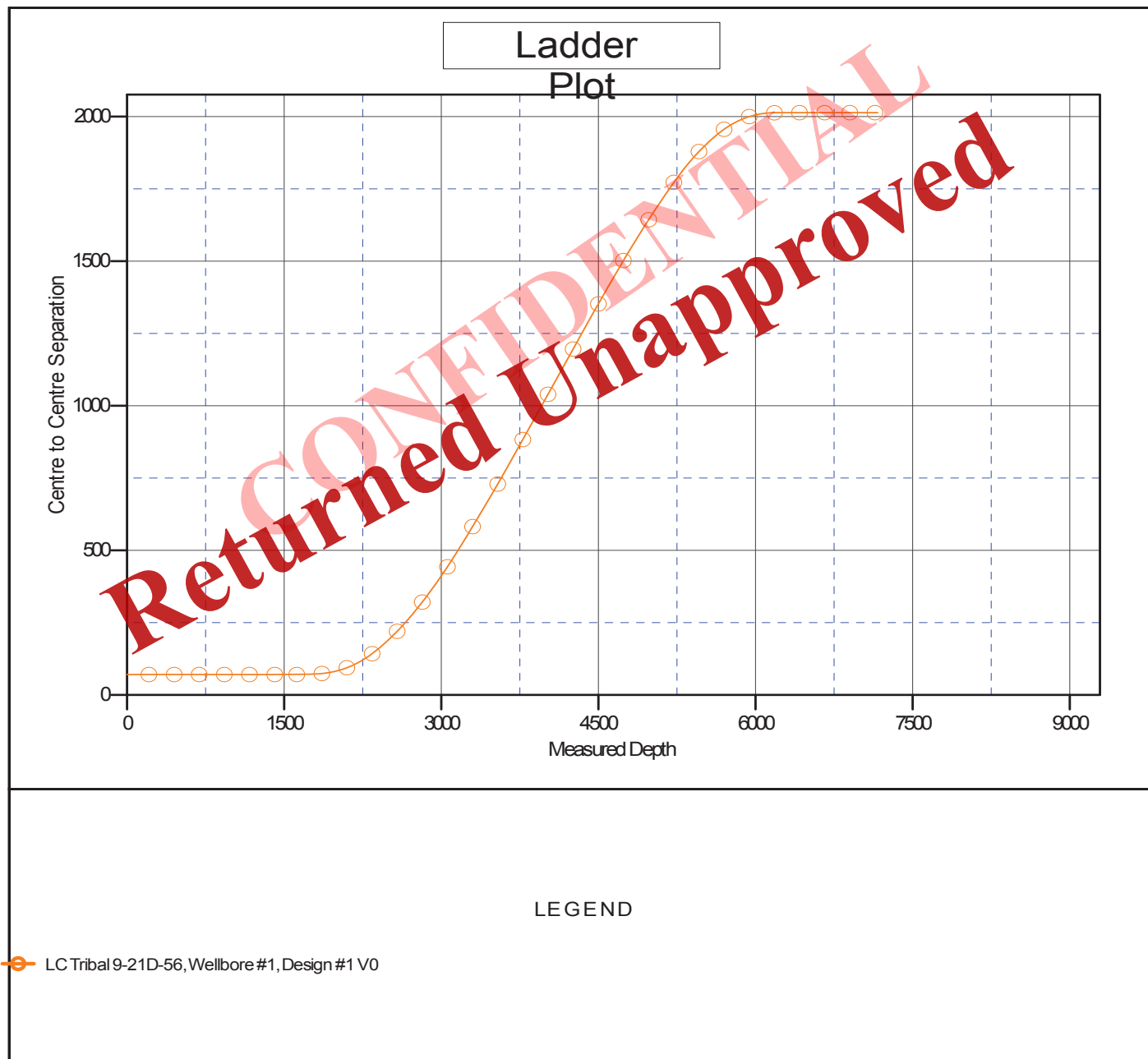
Offset Design Sec.21-T5S-R6W - LC Tribal 9-21D-56 - Wellbore #1 - Design #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,930.00	6,740.79	6,985.02	6,740.79	24.66	29.27	134.97	-298.27	1,320.29	2,013.51	1,973.16	40.35	49.902	
6,960.00	6,770.79	7,015.02	6,770.79	24.70	29.30	134.97	-298.27	1,320.29	2,013.51	1,973.07	40.44	49.790	
6,990.00	6,800.79	7,045.02	6,800.79	24.74	29.33	134.97	-298.27	1,320.29	2,013.51	1,972.98	40.53	49.678	
7,020.00	6,830.79	7,075.02	6,830.79	24.78	29.36	134.97	-298.27	1,320.29	2,013.51	1,972.89	40.62	49.566	
7,050.00	6,860.79	7,105.02	6,860.79	24.81	29.40	134.97	-298.27	1,320.29	2,013.51	1,972.79	40.71	49.455	
7,080.00	6,890.79	7,135.02	6,890.79	24.85	29.43	134.97	-298.27	1,320.29	2,013.51	1,972.70	40.81	49.343	
7,110.00	6,920.79	7,165.02	6,920.79	24.89	29.46	134.97	-298.27	1,320.29	2,013.51	1,972.61	40.90	49.231	
7,140.00	6,950.79	7,195.02	6,950.79	24.93	29.49	134.97	-298.27	1,320.29	2,013.51	1,972.52	40.99	49.121	
7,148.13	6,958.92	7,203.15	6,958.92	24.94	29.50	134.97	-298.27	1,320.29	2,013.51	1,972.49	41.02	49.092	
7,168.21	6,979.00	7,208.23	6,964.00	24.97	29.51	134.97	-298.27	1,320.29	2,013.56	1,972.51	41.0	49.046	

CONFIDENTIAL
Returned Unapproved

Company:	Linn Operating inc.	Local Co-ordinate Reference:	Well LCT 7-21D-56
Project:	Duchesne Co., UT (UT27C)	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Reference Site:	Sec.21-T5S-R6W	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to WELL @ 7772.00usft (Original Well E
Offset Depths are relative to Offset Datum
Central Meridian is 111° 30' 0.000 W

Coordinates are relative to: LCT 7-21D-56
Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302
Grid Convergence at Surface is: 0.60°



Company:	Linn Operating inc.	Local Co-ordinate Reference:	Well LCT 7-21D-56
Project:	Duchesne Co., UT (UT27C)	TVD Reference:	WELL @ 7772.00usft (Original Well Elev)
Reference Site:	Sec.21-T5S-R6W	MD Reference:	WELL @ 7772.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LCT 7-21D-56	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMDBBW
Reference Design:	Design #1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to WELL @ 7772.00usft (Original Well E
Offset Depths are relative to Offset Datum
Central Meridian is 111° 30' 0.000 W

Coordinates are relative to: LCT 7-21D-56
Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302
Grid Convergence at Surface is: 0.60°



AFFIDAVIT OF SURFACE DAMAGE AGREEMENT

SHAWN HAWK, the Affiant herein, is a Field Landman for Linn Operating, Inc., a Delaware corporation, with an office located at 4000 S 4028 W, Rt 2 Box 7735, Roosevelt, Utah 84066, being of lawful age and duly sworn upon his oath and being duly authorized to make this affidavit on behalf of said corporation hereby deposes and states to the best of his knowledge as follows:

That Linn Operating, Inc. has a Surface Damage Agreement signed by the current surface owner covering the following described property, hereinafter referred to as the Land:

TOWNSHIP 5 SOUTH, RANGE 6 WEST, USB&M
Section 21: NWSE

Affiant further states said Surface Damage Agreement GRANTS, SELLS, and CONVEYS unto Linn Operating, Inc. an easement for ingress and egress to, along with a right to use, that portion of the herein described property as may be necessary to construct, use, and maintain a well site or well sites (including location of additional wells on each well site in the case of directional or horizontal drilling) for the drilling, completion and operation of an oil and gas well or wells (including but not limited to pumping facilities and tank batteries) over, under and through the herein described Land.

Affiant further states said Surface Damage Agreement GRANTS, SELLS, and CONVEYS unto Linn Operating, Inc. the right to construct, entrench, maintain, operate, replace, remove, protect, or abandon a pipeline or pipelines for water or gas with appurtenances thereto, including, but not limited to, valves, metering equipment, and cathodic equipment; to construct, maintain, relocate, or abandon a road (said well sites, pipelines, appurtenance, valves, metering equipment, cathodic equipment and road being sometimes collectively call the "facilities") over, under, and through the herein described Land.

Executed and effective as of this 7th day of October, 2014.

Linn Operating, Inc.

By: Shawn Hawk
Shawn Hawk
Field Landman

LC Tribal 7-21D-56 & 9-21D-56

Received: October 07, 2014

SURFACE USE PLAN of OPERATIONS

Attachment for Permit to Drill:

Name of Operator: Linn Operating, Inc.
Address: 4000 South 4028 West/Rt. 2 Box 7735
Roosevelt, Utah 80466
Well Location: LC Tribal 7-21D-56
Surface: 2245' FSL & 1975' FEL
Target: 1900' FNL & 2089' FEL
NWSE of Sec. 21, T5S, R6W.

The surface owner or surface owner representative and dirt contractor will be provided with an approved copy of the surface use plan of operations and approved conditions of approval before initiating construction.

The onsite inspection for the referenced well will be conducted per UDOGM.

A Existing Roads

To reach the Linn Operating, Inc. well, LC Tribal 7-21D-56, in Section 21-T5S-R6W:

The proposed well site is approximately 22.5 miles southwest of Duchesne, Utah.

Proceed in a southerly direction from Duchesne, Utah, along US Highway 191 for approximately 9.9 miles to the junction of this road and the existing Right Fork Indian Canyon Road to the southwest. Turn right and proceed in a southwesterly direction for approximately 5.6 miles to the junction of this road and existing road to the south. Turn left and proceed along the switchbacks in a southerly thence easterly thence northeasterly direction for approximately 5.7 miles to the proposed LC Tribal 7-21D-56 and LC Tribal 9-21D-56 off the existing LC Tribal 8-21D-56, 10-21D-56 and 16-21D-56 location.

Linn Operating, Inc. will improve or maintain existing roads in a condition the same or better than before operations began. Best Management Practices will be considered when improving or maintaining existing roads. In general this would involve the need for some surface material or fill to prevent or repair holes in the road due to heavy truck traffic during the drilling and completion operations. If repairs are made the operator will secure the appropriate material from private sources.

B New or Reconstructed Access Roads

See Topographic Map "A & B" for the location of the proposed access road. Linn Operating, Inc. will utilize an existing access road to access the proposed LC Tribal 7-21D-56 and LC Tribal 9-21D-56. No new construction will take place.

C Location of Existing Wells

See Topographic Map "D" for the location of existing wells within a 1 mile radius.

D Location of Tank Batteries, Production Facilities and Production Gathering and Service Lines

A containment dike will be constructed completely around those production facilities which contain fluids (i.e., production tanks, produced water tanks). This dike will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank. The site specific APD will address additional capacity if such is needed due to environmental concerns. The use of topsoil for the construction of dikes will not be allowed. If a Spill Prevention, Control, and Countermeasure (SPCC) Plan is required by the Environmental Protection Agency, the containment dike may be expanded with the Authorized Agency Officer's approval to meet SPCC requirements.

The proposed pipeline will tie in at an existing pipeline. Map "C" illustrating the proposed route is attached. The proposed pipeline will be 4"-6" polypipe and be placed above ground. The pipeline will run in the same corridor as the above proposed access road.

All site security guidelines identified in Federal regulation 43 CFR 3126.7, will be adhered to. All off-lease storage, off-lease measurement, or commingling on-lease or off-lease production will have prior written approval from the Authorized Agency Officer.

Gas meter runs will be located approximately 100 feet from the wellhead. Where necessary, the gas line will be anchored down from the wellhead to the meter.

E Location and Type of Water Supply

Water for the drilling and completion will be pumped or trucked from one of the following Linn source wells:

- Water Permit # 43-12400, Sec. 23, T5S, R5W
- Water Permit # 43-12400, Sec. 24, T5S, R5W
- Water Permit # 43-1221, Sec. 30, T3S, R8W
- Water Permit # 43-1226, Sec. 30, T3S, R8W
- Water Permit # 43-1227, Sec. 30, T3S, R8W
- Water Permit # 43-1628, Sec. 12, T5S, R6W (Douglas E. & Yordis Nielsen)
- Duchesne City Culinary Water Dock located in Sec. 1, T4S, R5W
- East Duchesne Water, Arcadia Feedlot, Sec. 28, T3S, R3W
- Petroglyph Operating Company 08-04 Waterplant, Sec. 8, T5S, R3W.

F Source of Construction Materials

All construction materials for this location site and access road shall be borrow material accumulated during the construction of the location site and access road.

Additional gravel or pit lining material will be obtained from a private source.

The use of materials under Authorized Agency jurisdiction will conform to 43 CFR 3610.2-3.

G Methods of Handling Waste Materials

Drill fluids will be contained in a closed loop system. Cuttings will be contained on site and buried in a pit or used on location and/or access roads, whichever is deemed appropriate by the authorized agency.

After first production, produced wastewater from Linn Operating, Inc. wells will be used for injection in our enhanced oil recovery project(s) in the Brundage Canyon Field or they will be trucked to one of the following approved waste water disposal sites:

- R.N. Industries, Inc. Sec. 4, T2S, R2W, Bluebell
- MC & MC Disposal Sec. 12, T6S, R19E, Vernal
- LaPoint Recycle & Storage Sec. 12, T5S, R19E, LaPoint
- Water Disposal Inc. Sec. 32, T1S, R1W, Roosevelt
- ITL 4461 W 3000 So Roosevelt Location Pleasant Valley
- IWM PO Box 430 Altamont or 20250 W 2000 S Duchesne Location – Blue Bench
- Pro Water 12223 Highland Ave Ste B503 Rancho Cucamonga CA 91739 Location – Blue Bench

Should operations of the field be prohibited by the Authorized Officer, the wastewater shall be confined to the approved pit or storage tank for a period not to exceed 90 days. The use of such pit is hereby approved as part of this Application for Permit to Drill.

Production fluids will be contained in leak-proof tanks. All production fluids will be disposed of at approved disposal sites. Produced water, oil, and other byproducts will not be applied to roads or well pads for control of dust or weeds. The indiscriminate dumping of produced fluids on roads, well sites, or other areas will not be allowed.

Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical portable toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. Trash will not be burned on location.

All debris and other waste materials not contained in the trash cage will be cleaned up and removed from the location promptly after removal of the completion rig (weather permitting).

Any open pits will be fenced during the operations. The fencing will be maintained with best efforts until such time as the pits are back filled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of wells. Furthermore, extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will not be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completing of wells within these areas.

H Ancillary Facilities

There are no ancillary facilities planned for at this time and none are foreseen in the future.

I Well site Layout

The attached Location Layout diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, pipe racks, trailer parking, spoil dirt stockpile(s) and surface material stockpile(s)

J Plans for Restoration of the Surface

Interim

The dirt contractor will be provided with approved copies of the Surface Use Plan prior to construction activities.

Upon well completion, within a reasonable time, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions may include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and the re-establishment of vegetation as specified.

All disturbed areas will be re-contoured to the approximate natural contours.

Any drainage rerouted during the construction activities shall be restored to its original line of flow or as near as possible.

All areas of disturbance (including surface pipelines) must have appropriate surface use agreements or approvals in place with the proper owner and/or agency before such action is started.

The conditions of approval, as set forth by those owners and/or agencies, shall be adhered to.

Interim Reclamation consisting of minimizing the footprint of disturbance shall be accomplished by reclaiming all portions of the well site not needed for safe production operations. The portions of the well site not needed for operational and safety purposes will be recontoured to a final appearance that blends with the surrounding topography. Topsoil will be spread over these areas. The operator will spread the topsoil over the entire location except where an all-weather surface, access route or turnaround is needed. Production facilities should be clustered or placed offsite to maximize the opportunity for interim reclamation. Any incidental use on interim reclamation may require restoration of damage. This may require recontouring and seeding of the damaged area.

Paint all production facilities and equipment, not otherwise regulated (OSHA, etc.), a uniform, non-contrasting, non-reflective color tone, matched to the land and not the sky, slightly darker than the adjacent landscape.

Install Hospital muffler to the Pump-jack to minimize engine noise.

Final

Prior to the construction of the location, the top 12 inches of soil material (if present) will be stripped and stockpiled. Placement of the topsoil is noted on the location plat attached. Topsoil shall be stockpiled separately from subsoil materials. Topsoil salvaged from the reserve pit shall be stockpiled separately near the reserve pit.

When restoration activities have been completed, the location site and new access road cuts and shoulders shall be reseeded. Prior to reseeding, all disturbed areas, including the old access road will be scarified and left with a rough surface.

The Authorized Agency Officer shall be contacted for the required seed mixture. Seed will be broadcast and the amount of seed mixture per acre will be doubled. The seeded area will then be "walked" with a dozer to assure coverage of the seeds. The seed mixture will reflect the recommendation from the Archeology study done.

At final abandonment, all casing shall be cut off at the base of the cellar or 3 feet below final restored ground level, whichever is deeper, and cap the casing with a metal plate a minimum of 0.25 inches thick. The cap will be welded in place and the well location and identity will be permanently inscribed on the cap. The cap also will be constructed with a weep hole.

K Well Surface & Access Ownership:

Mike Kendall
1638 Gordon Ave
Layton, UT 84040
801-726-3488

L Other information

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

Linn will control noxious weeds along access road use authorizations, pipeline route authorizations, well sites or other applicable facilities. A list of noxious weeds may be obtained from the Authorized Agency or the appropriate County Extension Office.

Drilling rigs and/or equipment used during drilling operations on this location will not be stacked or stored on administered lands after the conclusion of drilling operations or at any other time without authorization by the Authorized Agency Officer. If authorization is obtained, such storage is only a temporary measure.

Travel is restricted to approved routes only.

Outlaw Engineering Inc. has conducted a Class I archaeological survey. A copy of this report has been submitted under separate cover by Outlaw Engineering Inc. to the appropriate agencies.

All personnel will refrain from collecting artifacts and from disturbing any significant cultural resources in the area. The operator is responsible for informing all persons in the area who are associated with this project that they may be subject to prosecution for knowingly disturbing historic or archaeological sites or for collecting artifacts. All vehicular traffic, personnel movement, construction, and restoration activities shall be confined to the areas examined, as referenced in the archaeological report, and to the existing roadways and/or evaluated access routes. If historic or archaeological materials are uncovered during construction, Linn Operating, Inc. is to immediately stop work that might further disturb such materials and contact the Authorized Agency Officer.

Within five working days, the Authorized Agency Officer will inform the operator as to:

- Whether the materials appear eligible for the National Historic Register of Historic Places;
- The mitigation measures Linn will likely have to undertake before the site can be used (assuming in-situ preservation is not necessary); and a time frame for the Authorized Officer to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the Authorized Officer are correct and that the mitigation measures are appropriate.

If Linn wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the Authorized Agency Officer and/or the surface owner will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise the operator will be responsible for mitigation costs. The Authorized Agency Officer and/or the surface owner will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Agency Officer that required mitigation has been completed, Linn will then be allowed to resume construction.

All Surface Use Conditions of Approval associated with the Landowner Surface Use Agreement and Environmental Analysis Mitigation Stipulations will be adhered to.

All well site locations will have appropriate signs indicating the name of the operator, the lease serial number, the well name and number, the survey description of the well (footages or the quarter/quarter section, the section, township, and range).

M. Air Emissions

Table 4-1. Proposed Action Annual Emissions
(tons/year)¹

Pollutant	Development	Production	Total
NO _x	9.5	13.5	23
CO	6.5	12.5	19
VOC	2.5	99.5	101
SO ₂	0.015	0.7	0.715
PM ₁₀	4.5	1.3	5.8
PM _{2.5}	1.5	1.3	2.8
Benzene	0.05	0.5	0.55
Toluene	0.02	1.01	1.03
Ethylbenzene	0.005	0.97	0.975
Xylene	0.015	1.635	1.65
n-Hexane	0	5.35	5.35
Formaldehyde	0.15	0.815	0.965

¹ Emissions include 5 producing well and associated operations traffic during the year in which the project is developed.

LINN Operating, Inc.

WELL PAD INTERFERENCE PLAT

LC TRIBAL 7-21D-56 (Proposed Well)

LC TRIBAL 9-21D-56 (Proposed Well)

LC TRIBAL 8-21D-56 (Existing Well)

LC TRIBAL 10-21D-56 (Existing Well)

LC TRIBAL 16-21D-56 (Existing Well)

Pad Location: NWSE Section 21, T5S, R6W, U.S.B.&M.

EXISTING
DISTURBANCE
BOUNDARY

(1) EXISTING 8"
POLY PIPELINE

EXISTING
ROAD

EXISTING
ANCHOR
(TYP.)

(To Bottom of Hole)
N05°53'38"W - 1130.07'

EDGE OF
EXISTING
PAD

16-21D-56 (EXISTING)

10-21D-56 (EXISTING)

7-21D-56 (PROPOSED)

8-21D-56 (EXISTING)

9-21D-56 (PROPOSED)

N57°45'05"E
75°41'18"E - 1304.67'
(To Bottom of Hole)

(1) EXISTING 4"
POLY PIPELINE

(1) EXISTING 8"
POLY PIPELINE

EXISTING
ROAD

Returned Unapproved

Note: Bearings are based on GPS Observations.		SURFACE WELL HOLE FOOTAGES FROM SECTION LINES	TARGET BOTTOM HOLE FOOTAGES FROM SECTION LINES	SURFACE POSITION LATITUDE & LONGITUDE (NAD 27 DECIMAL DEGREES)		RELATIVE COORDINATES TOP OF HOLE TO BOTTOM OF HOLE	
WELL	SURFACE HOLE	BOTTOM HOLE		LATITUDE	LONGITUDE	NORTH	EAST
7-21D-56	2245' FSL 1975' FEL	1900' FNL 2089' FEL		40.031049°	110.561773°	1,124'	-116'
9-21D-56	2283' FSL 1916' FEL	1950' FSL 652' FEL		40.031152°	110.561558°	-322'	1,264'
Ex.8-21D-56	2288' FSL 1936' FEL	NA		40.031165°	110.561632°	NA	NA
Ex.16-21D-56	2267' FSL 1942' FEL	NA		40.031108°	110.561652°	NA	NA
Ex.10-21D-56	2256' FSL 1958' FEL	NA		40.031078°	110.561712°	NA	NA

SURVEYED BY: S.Y. DATE SURVEYED: 05-21-14

DRAWN BY: L.C.S. DATE DRAWN: 05-27-14

SCALE: 1" = 50' REVISED:

Tri State
Land Surveying, Inc.

180 NORTH VERNAL AVE. VERNAL, UTAH 84078

(435) 781-2501

Received: October 07, 2014

LINN Operating, Inc.

LOCATION LAYOUT

LC TRIBAL 7-21D-56 (Proposed Well)

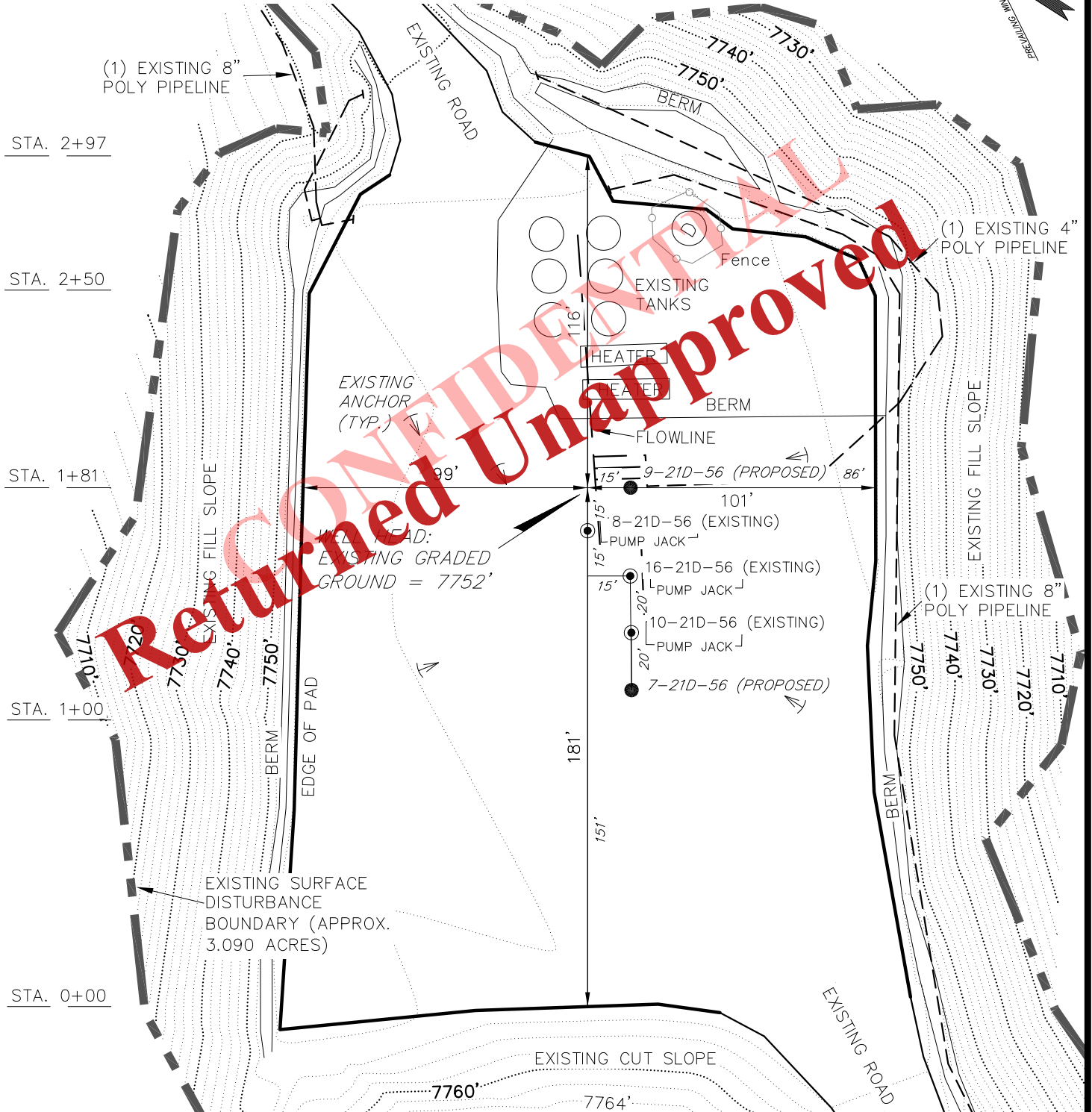
LC TRIBAL 9-21D-56 (Proposed Well)

LC TRIBAL 8-21D-56 (Existing Well)

LC TRIBAL 10-21D-56 (Existing Well)

LC TRIBAL 16-21D-56 (Existing Well)

Pad Location: NWSE Section 21, T5S, R6W, U.S.B.&M.



SURVEYED BY:	S.Y.	DATE SURVEYED:	05-21-14
DRAWN BY:	L.C.S.	DATE DRAWN:	05-27-14
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CROSS SECTIONS

LC TRIBAL 7-21D-56 (Proposed Well)

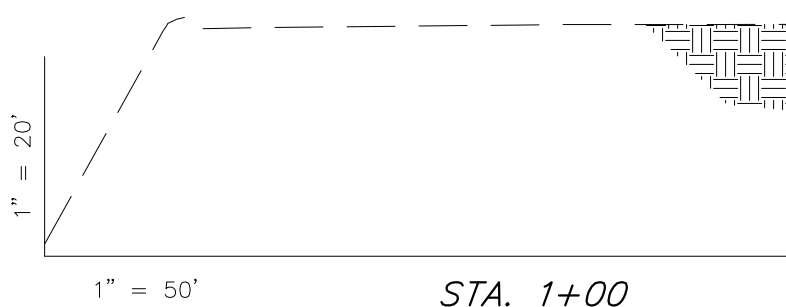
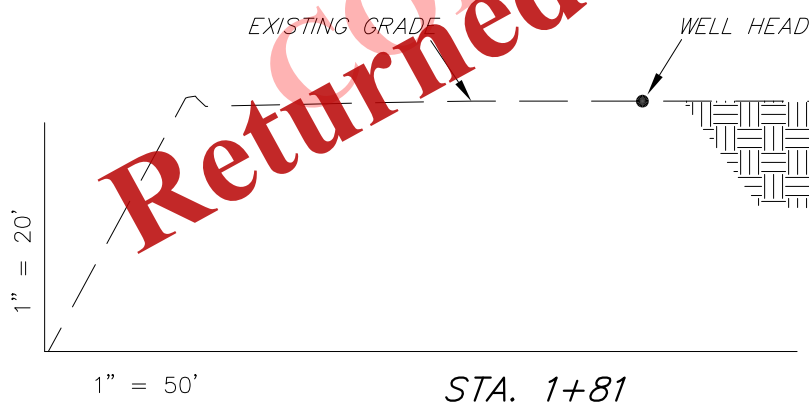
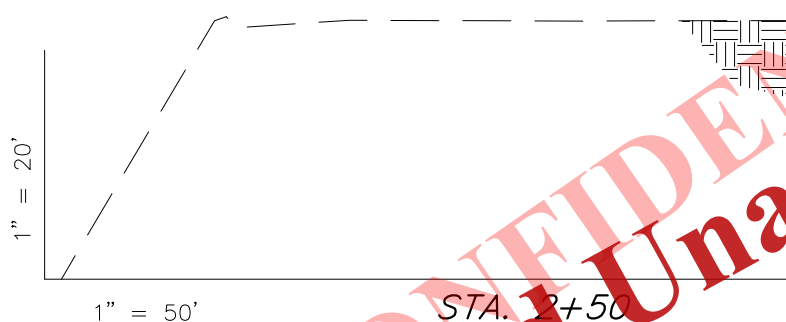
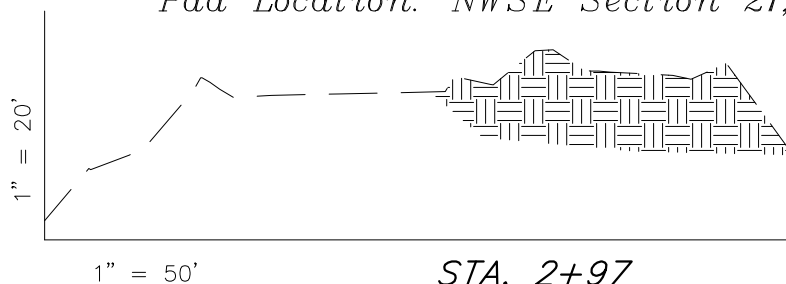
LC TRIBAL 9-21D-56 (Proposed Well)

LC TRIBAL 8-21D-56 (Existing Well)

LC TRIBAL 10-21D-56 (Existing Well)

LC TRIBAL 16-21D-56 (Existing Well)

Pad Location: NWSE Section 21, T5S, R6W, U.S.B.&M.



SURVEYED BY:	S.Y.	DATE SURVEYED:	05-21-14
DRAWN BY:	L.C.S.	DATE DRAWN:	05-27-14
SCALE:	1" = 50'	REVISED:	

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LINN Operating, Inc.

TYPICAL RIG LAYOUT

LC TRIBAL 7-21D-56 (Proposed Well)

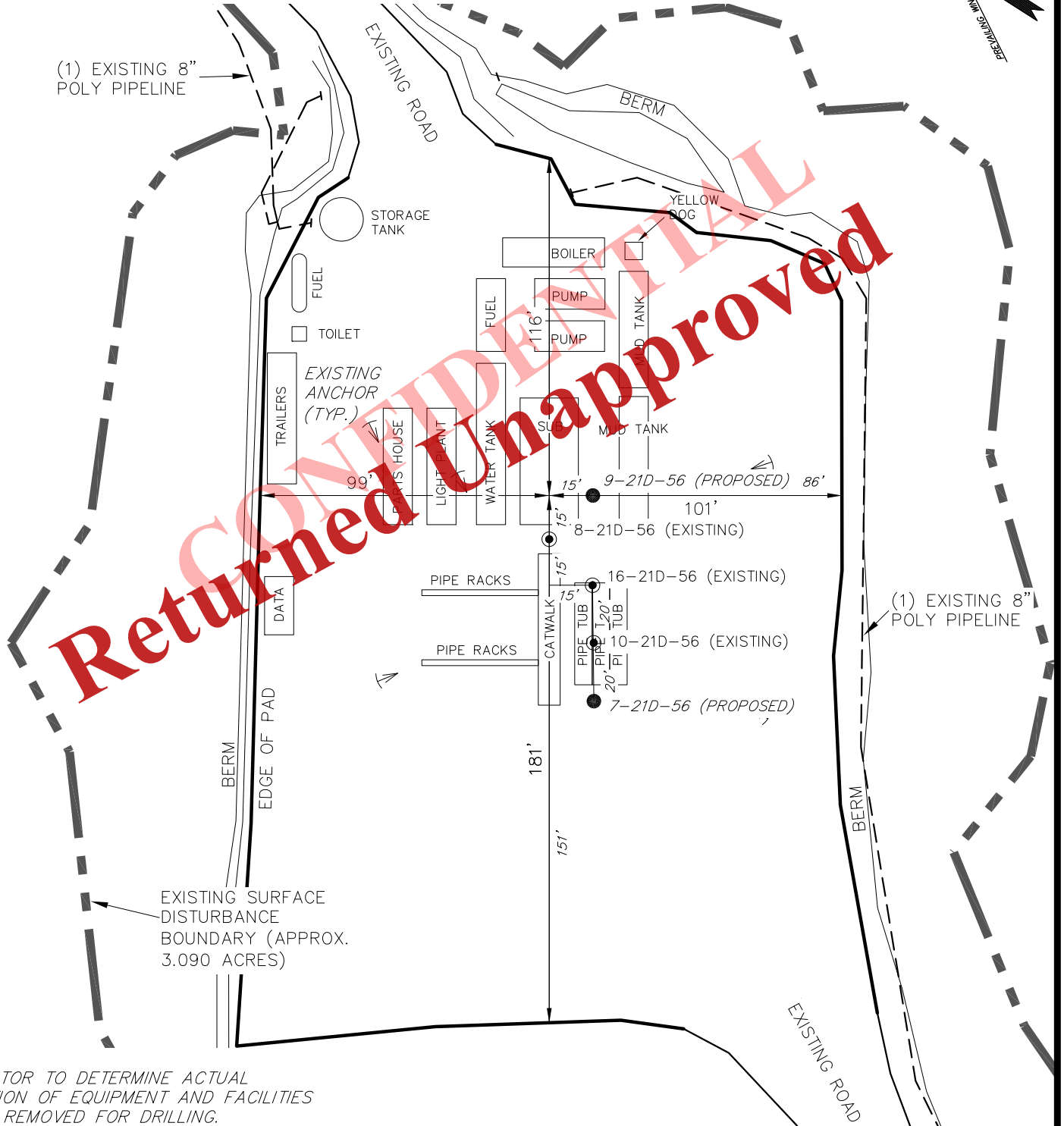
LC TRIBAL 9-21D-56 (Proposed Well)

LC TRIBAL 8-21D-56 (Existing Well)

LC TRIBAL 10-21D-56 (Existing Well)

LC TRIBAL 16-21D-56 (Existing Well)

Pad Location: NWSE Section 21, T5S, R6W, U.S.B.&M.



NOTE:

OPERATOR TO DETERMINE ACTUAL LOCATION OF EQUIPMENT AND FACILITIES TO BE REMOVED FOR DRILLING.

SURVEYED BY:	S.Y.	DATE SURVEYED:	05-21-14
DRAWN BY:	L.C.S.	DATE DRAWN:	05-27-14
SCALE:	1" = 50'	REVISED:	

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LINN Operating, Inc.

INTERIM RECLAMATION PLAN

LC TRIBAL 7-21D-56 (Proposed Well)

LC TRIBAL 9-21D-56 (Proposed Well)

LC TRIBAL 8-21D-56 (Existing Well)

LC TRIBAL 10-21D-56 (Existing Well)

LC TRIBAL 16-21D-56 (Existing Well)

Pad Location: NWSE Section 21, T5S, R6W, U.S.B.&M.

(1) EXISTING 8"
POLY PIPELINE

EXISTING ROAD

EXISTING
ANCHOR
(TYP.)

EDGE OF PAD

EXISTING SURFACE
DISTURBANCE
BOUNDARY (APPROX.
3.090 ACRES)

APPROXIMATE ACREAGE

UN-RECLAIMED = ±3.090 ACRES

SURVEYED BY:	S.Y.	DATE SURVEYED:	05-21-14
DRAWN BY:	L.C.S.	DATE DRAWN:	05-27-14
SCALE:	1" = 50'	REVISED:	

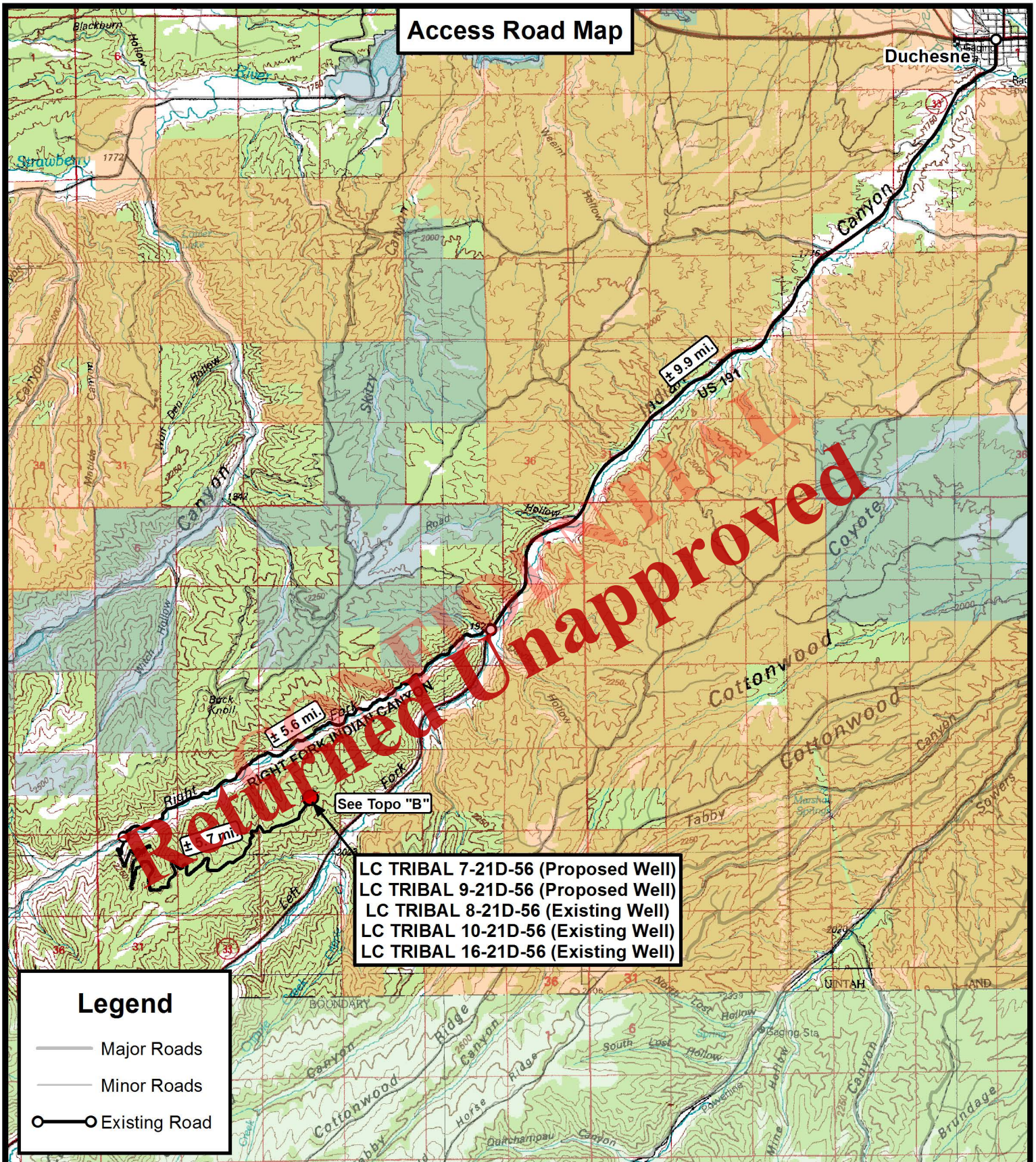
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Access Road Map



Legend

- Major Roads
- Minor Roads
- Existing Road

LC TRIBAL 7-21D-56 (Proposed Well)
 LC TRIBAL 9-21D-56 (Proposed Well)
 LC TRIBAL 8-21D-56 (Existing Well)
 LC TRIBAL 10-21D-56 (Existing Well)
 LC TRIBAL 16-21D-56 (Existing Well)



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LINN Operating, Inc.

LC TRIBAL 7-21D-56, 9-21D-56 (Proposed Wells)
 LC TRIBAL 8-21D-56, 10-21D-56 &
 16-21D-56 (Existing Wells)
 SEC. 21, T5S, R6W, U.S.B.&M. Duchesne County, UT.

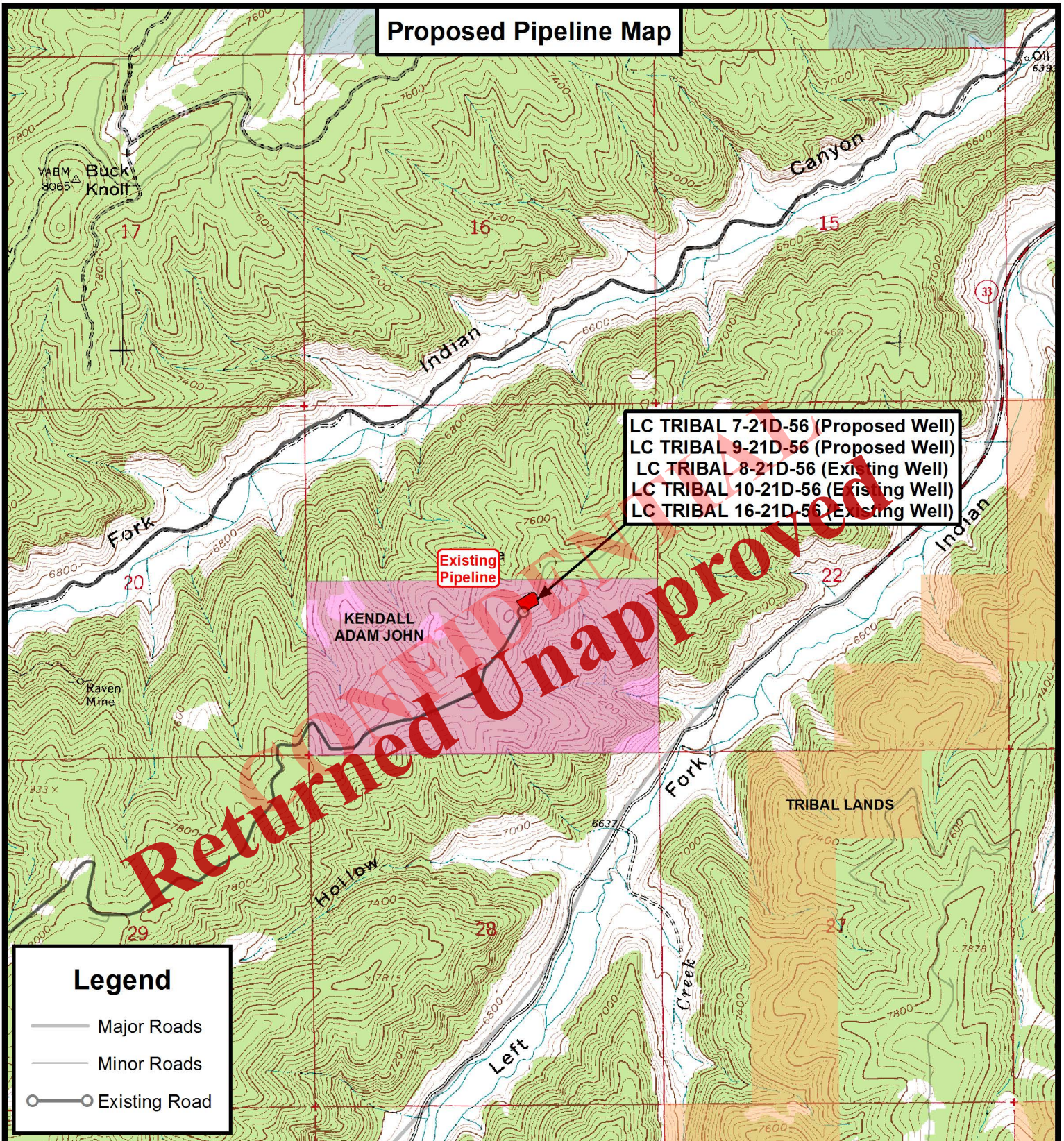
DRAWN BY: J.A.S.
 DATE: 06-17-2014
 SCALE: 1:100,000

TOPOGRAPHIC MAP

SHEET
A

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Proposed Pipeline Map



LC TRIBAL 7-21D-56 (Proposed Well)
 LC TRIBAL 9-21D-56 (Proposed Well)
 LC TRIBAL 8-21D-56 (Existing Well)
 LC TRIBAL 10-21D-56 (Existing Well)
 LC TRIBAL 16-21D-56 (Existing Well)

Existing Pipeline

KENDALL
 ADAM JOHN

TRIBAL LANDS

Legend

- Major Roads
- Minor Roads
- Existing Road

THE PARCEL INFORMATION SHOWN HAS NOT BEEN SURVEYED BY TRI-STATE LAND SURVEYING, INC. - TRI-STATE DOES NOT WARRANTY PROPERTY PARCEL DATA OR ANY ASSOCIATED INFORMATION. A PROPERTY SURVEY IS REQUIRED TO DETERMINE THE ACTUAL LOCATION OF PROPERTY LINES AND SHOW ACCURATE DISTANCES ACROSS PARCELS.

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LINN Operating, Inc.
 LC TRIBAL 7-21D-56, 9-21D-56 (Proposed Wells)
 LC TRIBAL 8-21D-56, 10-21D-56 &
 16-21D-56 (Existing Wells)
 SEC. 21, T5S, R6W, U.S.B.&M. Duchesne County, UT.

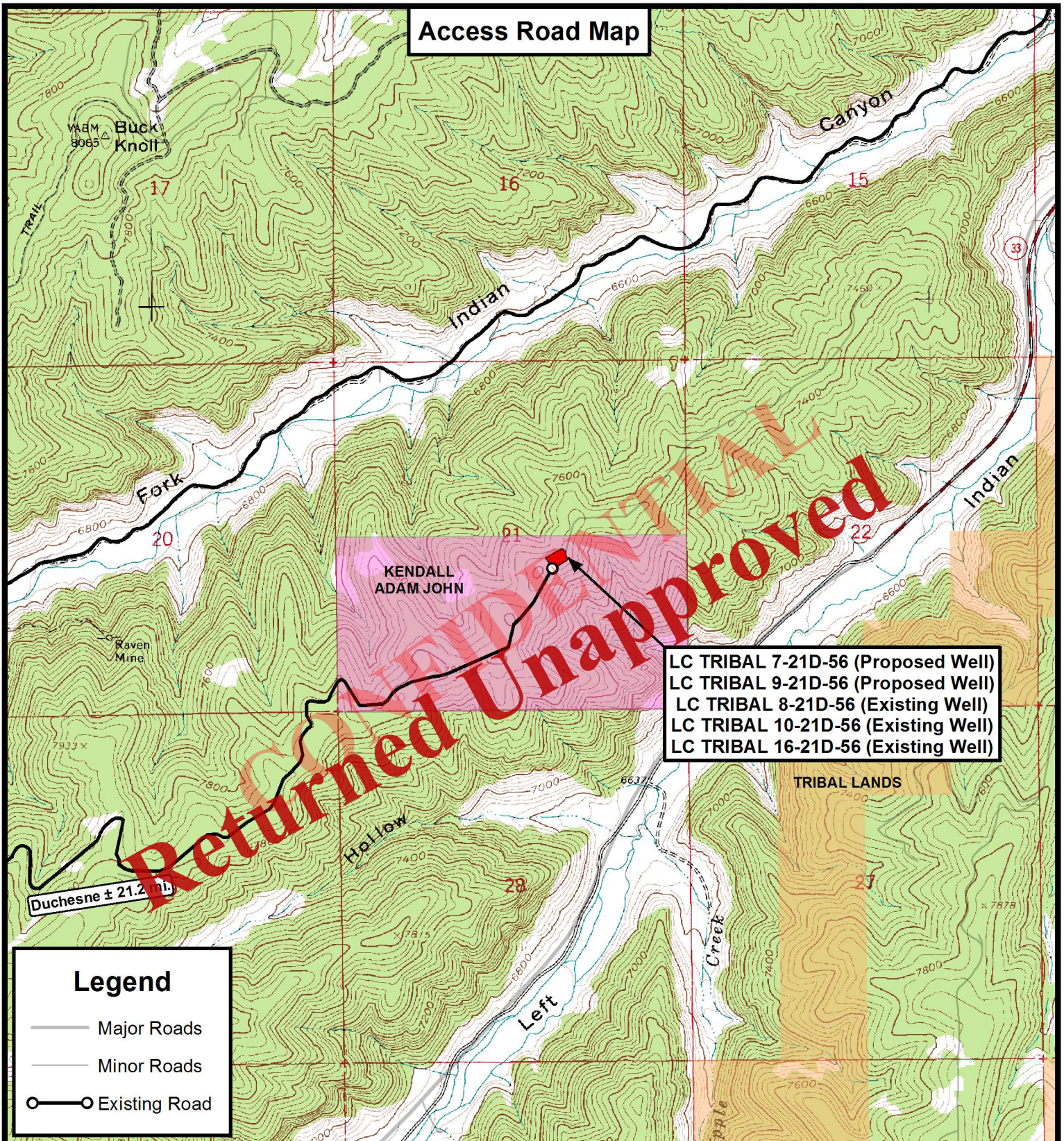
DRAWN BY:	J.A.S.
DATE:	06-17-2014
SCALE:	1" = 2,000'

TOPOGRAPHIC MAP

SHEET
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Access Road Map



Legend

- Major Roads
- Minor Roads
- Existing Road

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F: (435) 781-2518



LINN Operating, Inc.

LC TRIBAL 7-21D-56, 9-21D-56 (Proposed Wells)
LC TRIBAL 8-21D-56, 10-21D-56 &
16-21D-56 (Existing Wells)
SEC. 21, T5S, R6W, U.S.B.&M. Duchesne County, UT.

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DATE: 06-17-2014
SCALE: 1" = 2,000'

TOPOGRAPHIC MAP

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Exhibit "B" Map

Well Locations:



- LC TRIBAL 7-21D-56 (Proposed Well)
- LC TRIBAL 9-21D-56 (Proposed Well)
- LC TRIBAL 8-21D-56 (Existing Well)
- LC TRIBAL 10-21D-56 (Existing Well)
- LC TRIBAL 16-21D-56 (Existing Well)

Legend

- 1 Mile Radius
- Proposed Location

DNR Well Status

- Approved Permit
- Spudded Drilling
- Location Abandoned
- New Location
- Drilling Operations Suspended
- Plugged Abandoned
- Producing Gas Well
- Producing Oil Well
- Returned APD
- Shut-in Gas Well
- Shut-in Water Well
- Temporarily Abandoned
- Water Disposal Well
- Water Injection Well

 <p>P: (435) 781-2501 F: (435) 781-2518</p>			<p><u>LINN Operating, Inc.</u></p> <p>LC TRIBAL 7-21D-56, 9-21D-56 (Proposed Wells) LC TRIBAL 8-21D-56, 10-21D-56 & 16-21D-56 (Existing Wells) SEC. 21, T5S, R6W, U.S.B.&M. Duchesne County, UT.</p>									
<table border="1"> <tr> <td>DRAWN BY:</td> <td>J.A.S.</td> </tr> <tr> <td>DATE:</td> <td>06-17-2014</td> </tr> <tr> <td>SCALE:</td> <td>1" = 2,000'</td> </tr> </table>			DRAWN BY:	J.A.S.	DATE:	06-17-2014	SCALE:	1" = 2,000'	<table border="1"> <tr> <td colspan="2">TOPOGRAPHIC MAP</td> <td>SHEET D</td> </tr> </table>		TOPOGRAPHIC MAP	
DRAWN BY:	J.A.S.											
DATE:	06-17-2014											
SCALE:	1" = 2,000'											
TOPOGRAPHIC MAP		SHEET D										

Received: October 07, 2014

Location Photos

Center Stake Looking Southerly

Date Photographed: 05-21-2014

Photographed By : S. Young



Access

Looking Northeasterly

Date Photographed: 05-21-2014

Photographed By : S. Young



**Tri State
Land Surveying, Inc.**

180 NORTH VERNAL AVE. VERNAL, UTAH 84078

P: (435) 781-2501
F: (435) 781-2518

DRAWN BY: J.A.S. REVISED:
DATE: 02-04-2014

LINN Operating, Inc.

LC TRIBAL 7-21D-56, 9-21D-56 (Proposed Wells)

LC TRIBAL 8-21D-56, 10-21D-56 &

16-21D-56 (Existing Wells)

SEC. 21, T5S, R6W, U.S.B.&M. Duchesne County, UT.

COLOR PHOTOGRAPHS

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LINN Operating, Inc.

LC TRIBAL 7-21D-56, 9-21D-56 (Proposed Wells)

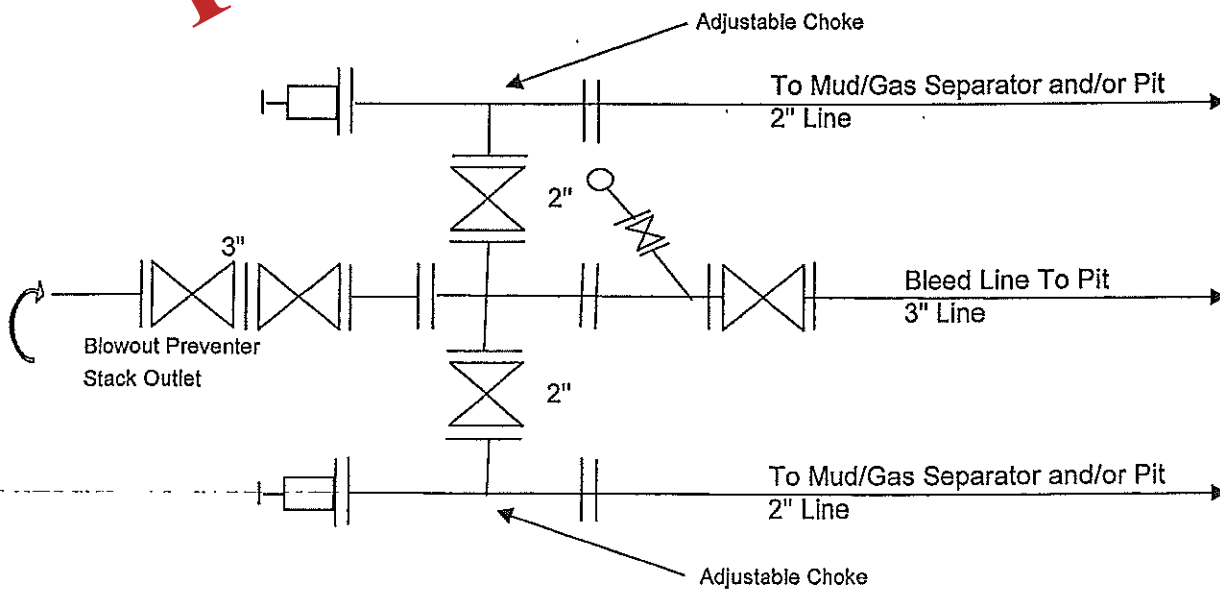
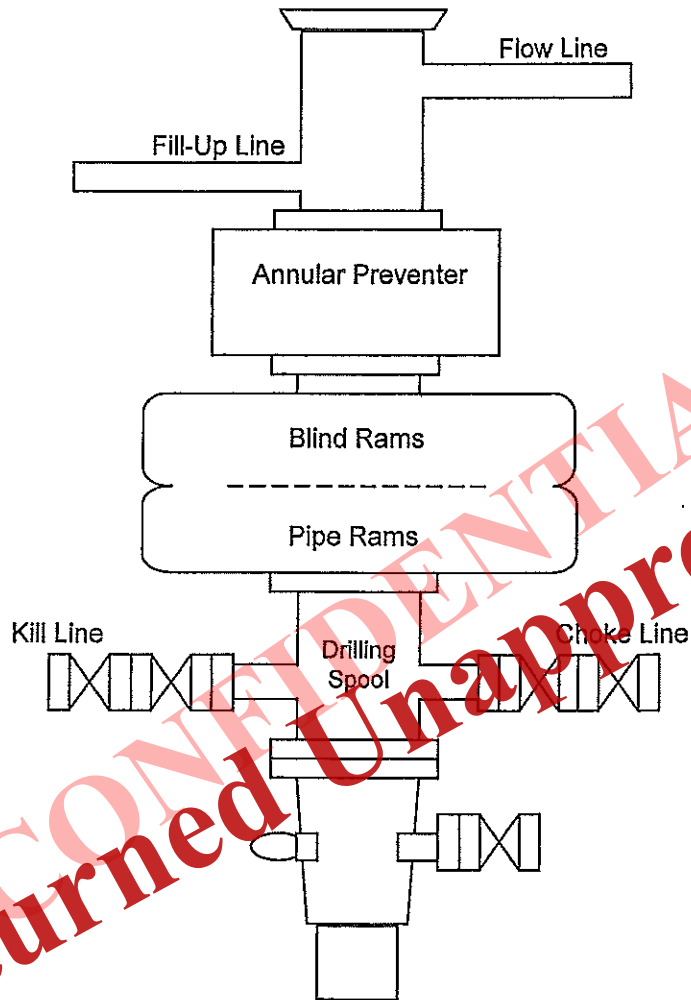
LC TRIBAL 8-21D-56, 10-21D-56 & 16-21D-56 (Existing Wells)

SECTION 21, T5S, R6W, U.S.B.&M.

PROCEED IN A SOUTHERLY DIRECTION FROM DUCHESNE, UTAH ALONG U.S. HIGHWAY 191 APPROXIMATELY 9.9 MILES TO THE JUNCTION OF THIS ROAD AND THE EXISTING RIGHT FORK INDIAN CANYON ROAD TO THE SOUTHWEST; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 5.6 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN LEFT AND PROCEED ALONG SWITCHBACKS IN A SOUTHERLY THENCE EASTERLY THENCE NORTHEASTERLY DIRECTION APPROXIMATELY 5.7 MILES TO THE EXISTING LOCATION FOR THE LC TRIBAL 7-21D-56, 9-21D-56, 8-21D-56, 10-21D-56 & 16-21D-56.

Returned Unapproved

SCHEMATIC DIAGRAM OF 3,000 PSI BOP STACK

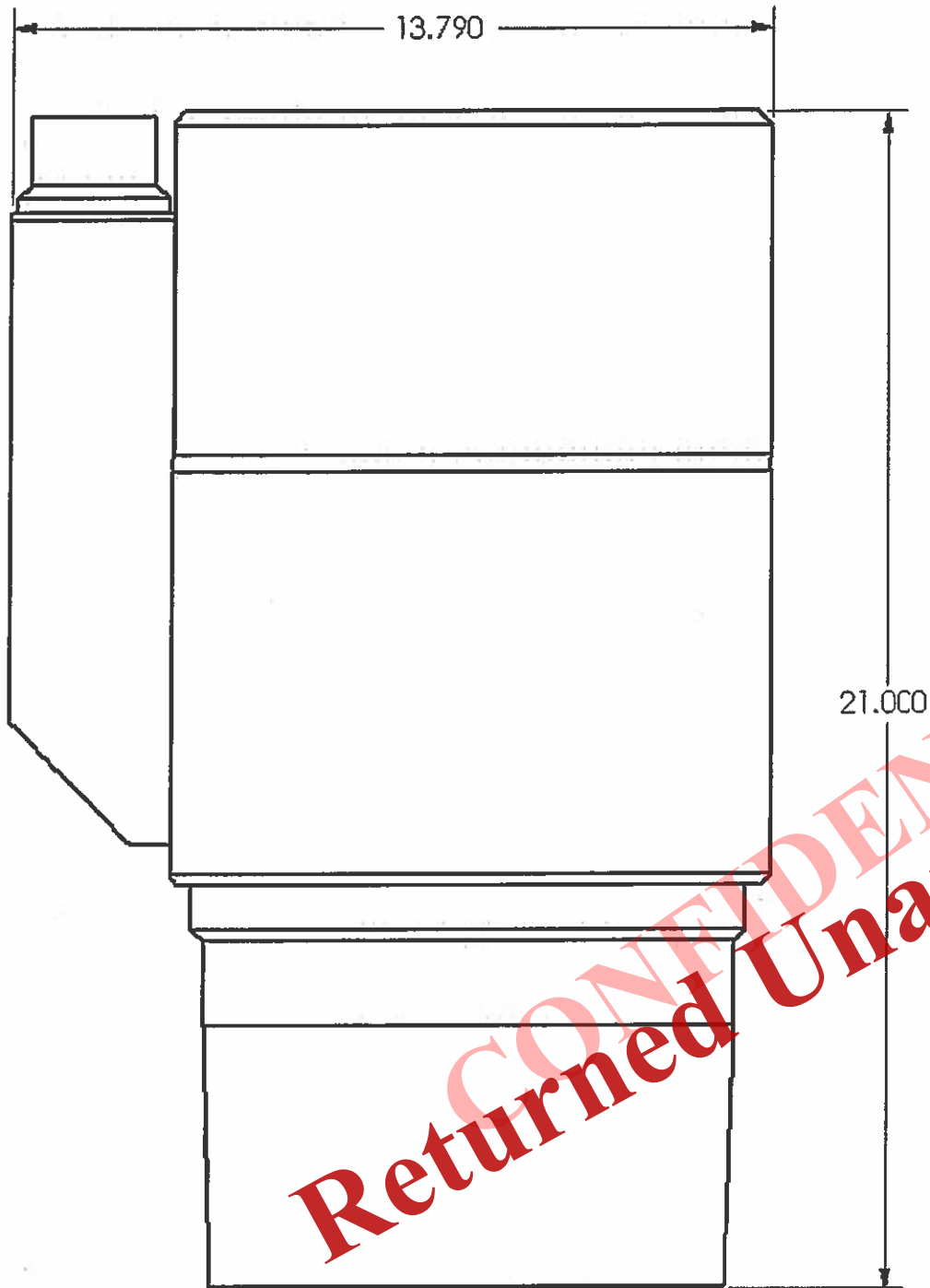


Running Procedure for the Air Injection Collar:

1. Place Air Collar in string for the desired depth for air injection.
2. Notes for torque on casing and Air Collar.
 - a. Set Casing as lower in the slips as possible
 - b. Place Air Collar into casing box and hand tighten
 - c. Place upper casing joint into Air Collar
 - d. Lift Power Tong to be able to engage upper casing joint.
 - e. Place backup on lower casing joint
 - f. Torque Air Collar Top and Bottom threads at the same time
 - g. Snub line for power tong must be re-positioned so that the line is level and at 90 degrees to the power tong. Please note that if the snub line is not square and level the torque applied to the Air Collar connections will no be correct. Under torque'd connections can cause a casing separation. This step is critical to proper Air Collar installation.
 - h. Torque the 1.90" tubing connection to the Air Collar tubing port.
3. Notes for Clamping and Welding parasite string to casing.
 - a. Weld one Parasite Casing Bracket on the first 5 joints.
 - b. Weld one Parasite Casing Bracket every third joint of casing.
 - c. Strap every joint that does not get a welded Pipe Bracket.
 - d. Use more Parasite Casing Bracket through deviated sections of your hole.
4. Once the top cement plug bumps the float collar pump a sugar water plug down the parasite string to clear and prevent the cement from setting up inside the Air Collar ports
5. Sugar water slug is 10 barrels of water mixed with 5 pounds of sugar.

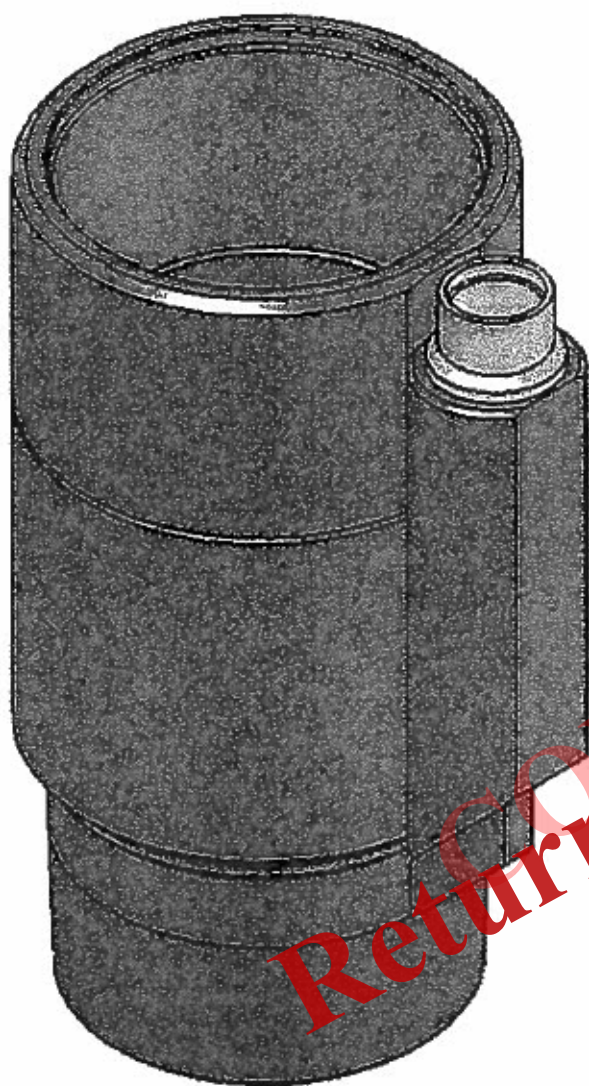
CONFIDENTIAL
Returned Unapproved

Drawings for Air Injection Collar:



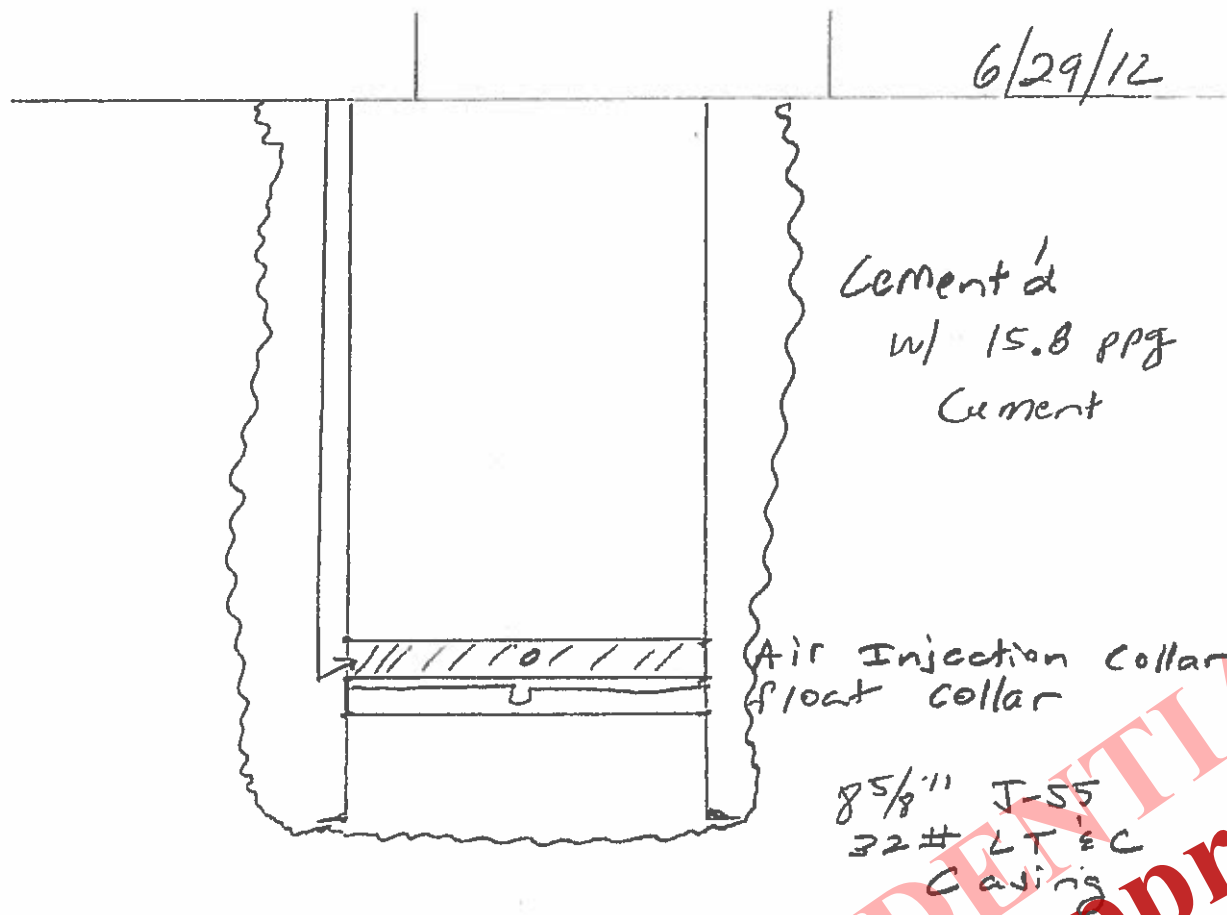
Standard Air Collar

CONFIDENTIAL
Returned Unapproved



CONFIDENTIAL
Returned Unapproved

Wellbore Schematic with Air Injection Collar and Parasite String:



CONFIDENTIAL
Returned Unapproved

AFFIDAVIT OF NOTICE

I, Krista Wilson, the affiant herein, being of lawful age and duly sworn upon his oath deposes and states to the best of my knowledge as follows:

Krista Wilson is a Sr. Regulatory & Permitting Tech. for Linn Operating, Inc., with offices located at 1999 Broadway, Suite 3700, Denver, Colorado 80202 and is duly authorized to make this affidavit on behalf of said company.. This Affidavit is made in accordance with Utah's Oil, Gas and Mining regulation R649-3-22.

Linn Operating, Inc. has submitted notices to commingle production from the Wasatch and Green River formations in the following wells. Further, the working interest and royalty interests in the Green River and Wasatch formations are common ownership and allocation of production from the different formations is not necessary.

LC Tribal 10-15D-56

LC Tribal 11-15D-56

LC Tribal 7-21D-56

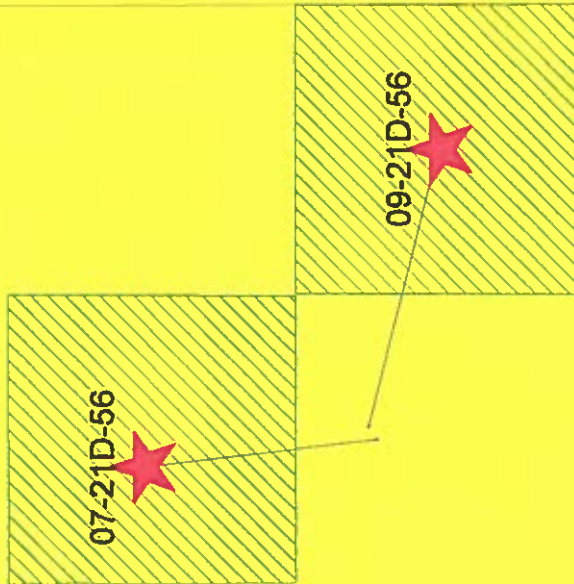
LC Tribal 9-21D-56

Per the terms of the Ute Tribal Lake Canyon Exploration and Development Agreement BIA Lease # 14-20-H62-5500, Linn Operating, Inc. is the owner of contiguous oil and gas leases or drilling units or has the right to the minerals overlying the pool for the aforementioned wells. Notice of intent to commingle production is hereby waived.

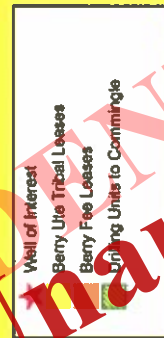
This instrument is executed this 7th day of October, 2014.

Linn Operating, Inc.

By: Krista Wilson



21



CONFIDENTIAL

Returned Unapproved



NASDAQ:LINE
NASDAQ:LNCO

October 7, 2014

Ms. Diana Whitney
State of Utah
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84115-5801

Re: Directional Drilling R649-3-11
LC Tribal 7-21D-56

2245' FSL & 1975' FEL (NWSE – SHL)
1900' FNL & 2089' FEL (SWNE – BHL)

Section 21, T5S-R6W
Duchesne, County, Utah

Dear Ms. Whitney:

Pursuant to the filing of Linn Operating, Inc. Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- The LC Tribal 7-21D-56 well is to be located within the Lake Canyon Field Area
- Linn is locating the well at the surface location and directionally drilling from this location to minimize surface disturbance and Linn will be able to utilize the existing road and pipelines in the area.
- Furthermore, Linn hereby certifies that it is the sole working interest owner with 460 feet of the entire directional well bore and the remainder of the Ute Tribal section.

Therefore, based on the above stated information Linn Operating, Inc. requests the permit be granted pursuant to R649-3-11.

Respectfully Submitted,

Krista Wilson

Krista Wilson
Sr. Regulatory & Permitting Technician

www.linnenergy.com
www.linnco.com

Received: October 07, 2014

SELF-CERTIFICATION STATEMENT

The following self-certification statement is provided per federal requirements dated May 7, 2007.

Please be advised that Linn Operating, Inc. is considered to be the operator of the following well.

LC Tribal 7-21D-56
Section 21, T5S, R6W, U.S.B. & M.
Surface: 2245' FSL & 1975' FEL (NWSE)
BHL: 1900' FNL & 2089' FEL (SWNE)
Duchesne, County, Utah

Linn Operating, Inc. is responsible under the terms of the lease for the operations conducted upon the lease lands.

Operator's Representative and Certification

A) Representative

NAME: Krista M. Wilson

ADDRESS: Linn Operating, Inc.
4000 South 4028 West
Route 2, Box 7735
Roosevelt, Utah 84066

PHONE: 435-722-1325

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations and onshore oil and gas orders. Linn Operating, Inc. is fully responsible for the actions of its subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The drilling permit will be valid for a period of two years from the date of approval. After permit termination, a new application will be filed for approval for any future operations.

B) Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge and belief, true and correct; and that the work associated with the operations proposed herein will be performed by Linn Operating, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

DATE

10/7/2014

Krista M. Wilson
Sr. Regulatory & Permitting Tech.

API Number:43-013-53165
Well Name: LC Tribal 7-21D-56

Section: 21 Township: 5S Range: 6W Meridian: USM
Operator: LINN OPERATING, INC.

Map Prepared: Oct. 15, 2014
Map Produced by Lisha Cordova

Wells Query

Status

- APD - Approved Permit
- DRL - Spudded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WW - Water Injection Well
- WSW - Water Supply Well

Units

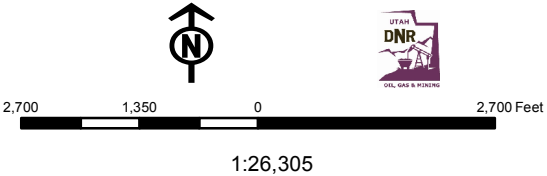
STATUS

- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields

STATUS

- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED



RECEIVED

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCT 20 2014

BLM Vernal UT

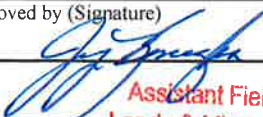
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		CONFIDENTIAL		5. Lease Serial No. 1420H626433
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone				6. If Indian, Allottee or Tribe Name
2. Name of Operator BERRY PETROLEUM COMPANY		Contact: KRISTA WILSON E-Mail: kwilson@linenergy.com		7. If Unit or CA Agreement, Name and No.
3a. Address RT 2 BOX 7735 4000 S 4028 W ROOSEVELT, UT 84066		3b. Phone No. (include area code) Ph: 435-722-1325		8. Lease Name and Well No. LC TRIBAL 7-21D-56
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWSE 2245FSL 1975FEL 40.031010 N Lat, 110.562483 W Lon At proposed prod. zone SWNE 1900FNL 2089FEL				9. API Well No. 43-013-53165
14. Distance in miles and direction from nearest town or post office* 22 MILES FROM DUCHESNE, UT				10. Field and Pool, or Exploratory LAKE CANYON
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1900		16. No. of Acres in Lease 640.00		11. Sec., T., R., M., or Blk. and Survey or Area Sec 21 T5S R6W Mer UBM
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 20		19. Proposed Depth 7168 MD 6979 TVD		12. County or Parish DUCHESNE
21. Elevations (Show whether DF, KB, RT, GL, etc.) 7752 GL		22. Approximate date work will start 03/01/2015		13. State UT
				17. Spacing Unit dedicated to this well 40.00
				20. BLM/BIA Bond No. on file RLB0005647
				23. Estimated duration 14 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) KRISTA WILSON Ph: 435-722-1325	Date 10/17/2014
Title SR. REGULATORY & PERMITTING		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date JAN 20 2015
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #271683 verified by the BLM Well Information System
For BERRY PETROLEUM COMPANY, sent to the Vernal
Committed to AFMSS for processing by ROBIN R. HANSEN on 10/28/2014 ()

NOTICE OF APPROVAL

UDOGM

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **



UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company: Berry Petroleum Company
Well No: 7-21D-56
API No: 43-013-53165

Location: NESE, Sec. 21, T5S, R6W
Lease No: 14-20-H62-6433
Agreement: N/A

OFFICE NUMBER: (435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

NOTIFICATION REQUIREMENTS

- | | |
|---|--|
| Construction Activity
(Notify Ute Tribe Energy & Minerals
Dept. and BLM Environmental
Scientist) | - The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday. |
| Construction Completion
(Notify Ute Tribe Energy & Minerals
Dept. and BLM Environmental
Scientist) | - Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig. |
| Spud Notice
(Notify BLM Petroleum Engineer) | - Twenty-Four (24) hours prior to spudding the well. |
| Casing String & Cementing
(Notify BLM Supv. Petroleum Tech.) | - Twenty-Four (24) hours prior to running casing and cementing all casing strings to: blm ut vn opreport@blm.gov . |
| BOP & Related Equipment Tests
(Notify BLM Supv. Petroleum Tech.) | - Twenty-Four (24) hours prior to initiating pressure tests. |
| First Production Notice
(Notify BLM Petroleum Engineer) | - Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days. |

***SURFACE USE PROGRAM
CONDITIONS OF APPROVAL (COAs)***

- All areas of disturbance (including surface pipelines) must have appropriate surface use agreements or approvals in place with the proper owner and/or agency before such action is started.
- The conditions of approval, as set forth by those owners and/or agencies, shall be adhered to.
- All COAs established in the original pad EA DOI-BLM-UT- G010-2010-0322
- Reclamation will be completed in accordance with the re-contouring and reseeding procedures outlined in the Newfield Exploration Company Castle Peak and Eight Mile Flat Reclamation Plan on file with the Vernal Field Office of the BLM, unless otherwise specified by the private surface owner.
- The conditions of approval, as set forth by the surface owner, shall be adhered to.

***DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)***

- CBL shall be run from TD to TOC.
- Cement for surface casing shall be brought to surface
- Cement for long-string shall be brought to 200' above surface casing shoe
- Variance Granted

Requests for variances from O.O 2.E for Air Drilling are approved as written in APD

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or

abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.

- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well in CD (compact disc) format to the Vernal BLM Field Office. This submission will supersede the requirement for submittal of paper logs to the BLM.
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
 - Operator name, address, and telephone number.
 - Well name and number.
 - Well location (¼¼, Sec., Twn, Rng, and P.M.).
 - Date well was placed in a producing status (date of first production for which royalty will be paid).
 - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
 - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
 - Unit agreement and/or participating area name and number, if applicable.
 - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if

performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

February 08, 2016

LINN OPERATING, INC.
Rt. 2 Box 7735
Roosevelt, UT 84066

Re: Application for Permit to Drill - DUCHESNE County, Utah

Ladies and Gentlemen:

The Application for Permit to Drill (APD) for the LC Tribal 7-21D-56 well, API 43013531650000 that was submitted October 07, 2014 is being returned unapproved. If you plan on drilling this well in the future, you must first submit a new application.

Should you have any questions regarding this matter, please call me at (801) 538-5312.

Sincerely,

Diana Mason
Environmental Scientist

Enclosure

cc: Bureau of Land Management, Vernal, Utah



